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THE COMPARATIVE EFFECTS OF  
SELF-EVALUATION AND SELF-REINFORCEMENT TRAINING  
IN THE TREATMENT OF DEPRESSION

BY

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B.A., Florida Technological University, 1972

B.A., Florida Technological University, 1978

THESIS

Submitted in partial fulfillment of the requirements  
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1980



### Abstract

Rehm's self-control model of depression was evaluated by dismantling the self-control therapy into separate therapies based on self-monitoring plus self-evaluation and self-monitoring plus self-reinforcement training respectively.

Seventeen volunteer female subjects selected on the basis of MMPI, Beck Depression Inventory and interview criteria were randomly assigned to the two conditions for six weekly therapy sessions.

Results showed significant treatment effects on level of depression, overall pathology, behavioral ratings of verbal response levels and activity reinforcement potential. Separate comparisons of ratings of current functioning and performance criteria yielded significant effects on ratings of current functioning in favor of the self-monitoring plus self-reinforcement condition.

Subjective ratings of current functioning proved to be more closely related to depressive behavior than were performance criteria. Ratings of current functioning proved to be more readily modifiable through self-reinforcement training than through a purely cognitive therapy.



### Acknowledgements

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## Introduction

Behavioral inquiry into the etiology and treatment of depression has grown markedly in the past decade. While descriptions of the syndrome appear throughout history, only in recent years have the behavioral sciences exerted significant effort in studying the phenomenon. The present study attempts to examine two of the major components of a recently formulated behavioral conceptualization and treatment of depression: The self-control model of depression proposed by Rehm (1977).

For the purpose of this study, depression will be defined according to the three classes of behavior identified by Beck (1967): Emotional, cognitive and physical. The emotional components of depressive behavior include dejection, self-dislike, anhedonia and uncontrolled crying. Cognitively, the depressed individual evaluates himself negatively, engages in self-criticism, loses motivation, is indecisive and has generally negative expectations about the future. Physically, depression is characterized by sleep disturbances, lowered sex drive, fatigue and psychomotor slowing (or agitation).



## Behavioral Theories of Depression

Operant Models. Ferster (1973) views depression as an extinction phenomenon resulting from low rates of reinforcement. Depressive behaviors are a function of removal of positive reinforcers which formerly sustained adaptive behavior. This reduction in reinforcement is attributed in part to a faulty perceptual function marked by excessive attention to aversive stimuli. Because this process of selective observations limits the availability of reinforcers, it serves to potentiate the extinction process.

Ferster (1973) proposes that therapeutic intervention should focus on expanding the client's perceptual repertoire through differential reinforcement of verbalizations reflecting adaptive perceptions. This strategy represents a directive approach in which the aim is to increase the client's level of reinforcing environmental events.

Costello (1972), in a related view, proposes that depression not only represents an extinction phenomenon, but the generalized extinction of responses. Previously reinforcing stimuli are viewed as having lost their reinforcement value because of a break in the chain of behaviors leading to ultimate or primary reinforcement. Secondary reinforcers lose their potency when they no longer serve as cues to ultimate reinforcement. If those



secondary reinforcers cease to be paired with the primary reinforcer (i.e. through loss of that reinforcer) extinction becomes generalized throughout the behavioral chain.

Seligman (1974) proposes that learned helplessness in laboratory animals parallels the depressive behavior of humans. Non-contingent punishment is the crucial factor in the learned helplessness analogy. Animals punished non-contingently for their behavior will begin to emit fewer adaptive behaviors of any kind. Humans who receive non-contingent punishment similarly lose much of their response repertoire presumably because of belief that any adaptive behavior will be punished. This, according to Seligman (1974) accounts for the fact that depressed individuals act upon few environmental stimuli and are therefore refractory to cues signalling potential reinforcement.

Seligman (1975) cites six characteristics of learned helplessness that parallel the major clinical symptoms of depression: (1) Lowered initiation of voluntary (operant) responses in both animals and man; (2) negative cognitive set in which both animals and men perceive difficulty in learning responses; (3) "Time Course", a phenomenon in which helplessness induced by a single occurrence of uncontrollable punishment dissipates in time. Helplessness induced by multiple sessions is more persistent; (4) lower levels of aggression and



competition; (5) loss of appetite, sexual responsiveness and initiation of social responses; and (6) physiological changes marked by changes in neurotransmitter levels.

Seligman endorses a cognitive therapy aimed at altering the client's beliefs about his ability to be reinforced for adaptive responses.

In contrast to Seligman's learned helplessness analogy, Ferster, (1973), notes that much of the behavior emitted by depressed individuals represents avoidance or escape responses. Suicide is an example of an escape response insofar as it constitutes the ultimate escape from aversive stimulation. Such behaviors as agitation and superficial social activities, on the other hand, could be considered avoidance responses because they prevent such potentially aversive consequences as boredom and loneliness. Under Ferster's hypothesis, rather than succumbing to helplessness, the individual does indeed act upon the environment, but in a maladaptive fashion. In keeping with Ferster's (1973) previously-stated conceptualization, the individual is responding according to a maladaptive perceptual process in which aversive stimuli receive an inordinate amount of attention because they serve as cues to consequences which are to be avoided.

Lazarus (1968) holds that depression must be viewed



in terms of both the antecedents and the consequences of behavior. He criticizes the long-held practice of using the label "endogenous" depression to describe cases in which there is no immediately identifiable loss (withdrawal of reinforcer) antecedent to the depressive symptoms. Lazarus (1968) notes that many depressed individuals are consistently reinforced for their depressive behavior by elevated levels of support and cheerfulness rendered by those around them. Lazarus holds that even those cases of depression which seem to have physiological origins, Stimulus-Response (S-R) patterns are such that the depressive behavior is maintained by the environment.

Lazarus (1974) adds that depression can be viewed from the standpoint that while loss of reinforcers often precipitates depression, a lack of social skills (necessary to gain new reinforcers) can prolong the disorder. Lazarus incorporates social skills (assertion) training into a broad-spectrum therapeutic approach.

Lewinsohn, Weinstein and Alper (1970) propose that a lack of social skill is a major antecedent to depressive behavior and represents a deficient response capability. Because depressed individuals have a deficient capacity for emitting social responses, it is proposed that they receive fewer social reinforcers.



In a study comparing depressed and non-depressed subjects, Libet and Lewinsohn (1973) found that depressed subjects emitted fewer responses and therefore elicited fewer responses from other subjects.

Lewinsohn's (1974) social learning approach to depression incorporates the concept of social skills deficit into a complex theory. The behavior of the depressed individual is seen as the result of low rates of response-contingent reinforcement. This behavior is socially reinforced by others who provide sympathy and support. After a period in which others in the environment strengthen the depressive behavior by reinforcing it, reinforcement may be withdrawn as the behavior becomes aversive. Because the depressed individual has a deficient capacity to emit adaptive social responses, he elicits few social reinforcers. Consequently, the depression becomes a function of cyclical factors which in the end lead to still lower rates of positive reinforcement.

Lewinsohn and Libet (1972) further explored the basic behavioral hypothesis that depression is the result of low rates of response-contingent positive reinforcement. The study produced support for that hypothesis by demonstrating a significant relationship between reinforcement (number of pleasant events) and intensity of depression. Lewinsohn and Libet (1972)



and Lewinsohn and Graf (1973) demonstrated that increasing levels of activity with the use of activity schedules developed through assessment procedures can be an effective therapeutic technique.

Beck's Cognitive Theory. A departure from the operant models of depression is Beck's (1967) cognitive theory. Beck identifies three cognitive schemas which guide the behavior of depressed individuals. This depressive triad consists of negative self-image, negative interpretation of present experience and negative view of the future. These schemas, according to Beck and Shaw (1977), represent a pattern of cognitive distortion in which depressive behavior is the result of the individual's negative expectations about the outcome of his responding.

Beck and Shaw (1977) identify several cognitive patterns which operate within the depressive triad. "Arbitrary inference" is the tendency to draw negative conclusions about events when observable facts do not support such conclusions. A related pattern, "overgeneralization" is the process of generalizing negative expectations from one event to another without evidence to support such generalizations. A third dysfunctional pattern, "magnification", is the process of exaggerating the significance of minor events.



Beck and Shaw (1977) cite several studies in which general pessimism and negative self-concept were significantly correlated with level of depression. These findings, according to Beck and Shaw (1977) support the notion that beliefs reflected by the cognitive triad contribute to and are not the result of depression.

The goal of Beck's (Rush & Beck, 1978) cognitive therapy is to restructure the patient's cognitive patterns through a carefully graded set of tasks. The successful completion of these tasks provides evidence of personal effectiveness which is incompatible with the negative schemas. This sets the stage for the substitution of reality-based beliefs for the irrational beliefs which previously characterized the depressed patient's cognitive functioning.

Rehm's Self-Control Model. Rehm (1977) proposes that depression can be viewed within the context of Kanfer's (1971) model of self-control. Self-control, in operant terms, refers to the ability to initiate and maintain responses in the absence of external reinforcers. The self-control model addresses not only the rearrangement of environmental stimuli as a means of self-directing behavior (Skinner, 1953), but hypothesized internal events as well (Kanfer & Karoly, 1972). Kanfer and Karoly (1972) propose that self-regulation is governed



by the same set of rules as externally-observed operant behavior. This set of self-control behaviors is hypothesized to increase, decrease and maintain behaviors.

Kanfer's (1971) model consists of three stages: Self-monitoring (SM), self-evaluation (SE) and self-reinforcement (SR). When an individual seeks to increase, decrease or maintain a behavior and external consequences are either unavailable or do not support the behavioral objective, the self-control process is initiated. The individual attends to his behavior as well as to external and internal stimuli associated with the behavior. The first stage of the process, SM, having been initiated, the individual then self-evaluates his behavior by assessing it in terms of a pre-established criterion of performance. To complete the process, the individual then self-administers either positive reinforcement (SR+) or punishment (SR-). The valence of the SR is dependent upon the valence of the SE; negative SE is hypothesized to result in SR- while positive SE results in SR+.

Because a positively valenced SE is likely to result in a SR+, the nature of the criterion of performance on which the SE is based is crucial. Extremely high criteria of performance would tend to result in fewer positive self-evaluations and therefore few SR+ (and possibly a high number of SR-). While Kanfer and



Karoly (1972) stop short of considering the self-control model a cognitive paradigm, it provides a framework for the operant analysis of cognitive (or at least covert) behavior.

Self-reinforcement can be either overt or covert. SR can consist of access to Premack reinforcers (or denial of same in the case of SR-) or simple self-praise (or self-derogation).

Rehm (1977) proposes that depression is the result of deficient self-control behaviors. He identifies six hypothesized deficits: (1) Selective monitoring or attending to negative events; (2) selective monitoring or attending to immediate rather than delayed consequences of one's behavior; (3) setting overly-stringent criteria for the evaluation of one's behavior; (4) failing to make accurate attributions of responsibility for one's behavior; (5) insufficiently rewarding one's behavior; and (6) excessively punishing one's behavior. The first two represent SM deficits, the second two SE deficits and the latter two SR deficits.

Faulty monitoring, seen as a deficit in self-control behaviors is analogous to Ferster's (1973) proposition that depressed individuals attend vigilently to aversive stimuli, indeed scanning the environment for cues signalling stimuli to be avoided. Beck's (1967)



proposition that depressed individuals hold a negative view of present experience and future events also relates to the concept of SM.

Seligman's (1974) assertion that depressed (helpless) individuals operate from the belief that they are unable to achieve reinforcement for operant responses and Beck's (1967) proposition that depressed persons suffer from a negative view of self are related to the concept of SE.

Self-criticism (Beck 1967) constitutes SR-, while the lack of effective operant responding (e.g. Ferster, 1973; Lazarus, 1968; Seligman, 1974; and Lewinsohn, 1971), widely observed in depressed individuals can be viewed within the self-control model as deficient SR+. Within this context, SR is viewed as secondary reinforcer, maintaining the behavioral chain between responses and a future (primary reinforcer). In this light, deficient SR would serve to potentiate the generalization of extinction hypothesized by Costello (1972), in that the individual would be emitting few self-controlling responses (SR+) to maintain behavior until a new primary reinforcer is established.

Lewinsohn and Libet (1972) and Lewinsohn and Graf (1973) provide indirect support for the role of SM in the treatment of depression. The use of the Pleasant



Events Schedule (MacPhillamy & Lewinsohn, Note 1) and activity logs in the treatment of depression were found to have some utility. While the studies viewed the self-monitoring exercise in terms of measuring reinforcement levels, the skills associated with accurate SM are viewed herein as a separate category.

Beck (1977) provides support for the role of SE in depressive behavior, citing several studies in which levels of depression were altered by increasing the probability of positive self-evaluative responses.

Self-reinforcement can be viewed both in terms of its motivational properties (Kanfer & Duerfeldt, 1967) and its ability to serve in the place of external reinforcers (Marston, 1967).

Fuchs and Rehm (1977) developed group treatment for depression based on the self-control model. Eight women subjected to the self-control treatment had improved significantly at posttest, showing a reduction of depression to within normal range as measured by both the Minnesota Multiphasic Personality Inventory and the Beck Depression Inventory. The self-control subjects also demonstrated a reduction in overall pathology as measured by the MMPI. Improvement by the self-control subjects was significantly greater than for either a non-specific therapy condition or a group



of waiting list controls. Additionally, the self-control subjects were superior on one of two behavioral measures of overt activity (group interaction activity).

Fuchs and Rehm (1977) employed four measures of self-control skills. These four self-report measures were intended to assess SM, SE, SR skills as well as attitudes and beliefs about self-control.

A short version of the Pleasant Events Schedule (MacPhillamy & Lewinsohn, Note 1) was employed as a measure of self-monitoring skills. Although the PES was originally devised as a means of assessing potentially reinforcing events, Fuchs and Rehm (1977) reasoned that it calls on the subject's self-monitoring skills inasmuch as it requires the recall of pleasant events occurring over the past 30 days. Posttest results revealed that self-control subjects had undergone the greatest increase of pleasant events. Posttest differences between self-control and waiting list subjects were significant while differences between self-control and non-specific subjects were not. Differences between groups in reinforcement potential were not significant at posttest.

A Self-evaluation Questionnaire (Fuchs, Note 2) was employed to measure SE skills. The SEQ requires the subject to contrast "current self" and



"ideal self" on 18 dimensions. Greater differences are hypothesized to reflect deficits in SE skills. The self-control subjects showed significant improvement in SE skills at posttest, however the difference was non-significant at followup as all groups showed improvement over time. Analysis of the SE measure lends only partial support to the hypothesis that self-control subjects would improve in SE skills at a rate significantly greater than the non-specific subjects.

Fuchs and Rehm (1977) measured SR skills with a pseudo-intelligence test requiring subjects to provide 40 word associations according to how they predict most people would answer. They then rated their answers according to whether they thought the answers were right or wrong (or don't know). "Right" answers were considered SR+ while "wrong" were considered SR-. Self-control subjects showed greater improvement in SR+ at posttest than either non-specific or waiting list subjects, however that conclusion is complicated by the fact that the groups started with significantly different means. There were no significant differences in SR- at either posttest or followup. This measure provides only partial support for the hypothesis that SR+ would increase as a result of the self-control therapy and no support for the hypothesis that SR- would decrease.



Fuchs and Rehm (1977), note, however that the therapy contained no specific training relative to the role of SR-.

A fourth self-report measure, the Self-control Concepts test (Fuchs, 1976) was employed at posttest to self-control and non-specific subjects. As predicted, self-control subjects were superior in attitudes and beliefs about self-control skills.

Fuchs and Rehm (1977) find support for the basic hypothesis that self-control skills accounted for the greater improvement of self-control subjects. This guarded conclusion flows from the finding that the self-control subjects demonstrated greater improvement on the dependent measures of depression (the BDI and MMPI) despite the lack of significant differences on a social skills measure (group response elicitation) and a measure of reinforcement potential (from the Pleasant Events Schedule). This finding lends support to the self-control model of depression in contrast to the social skills and operant models insofar as the methodology of this study (Fuchs & Rehm, 1977) allows.

The self-control procedures were replicated by Rehm, Fuchs, Roth, Kornblith and Romano (1979) in a study comparing self-control and assertion skills treatments. Twenty-four depressed women, ages 21-60



were treated under the self-control and assertion skills conditions for a period of six weeks.

Self-control subjects were significantly less depressed than assertion skills subjects at posttest on the BDI and the MMPI, both in terms of degree of improvement and percentage of the sample falling within normal range. At followup, self-control subjects still showed significantly lower levels of depression the BDI but not the MMPI.

On behavioral measures of depression, both groups showed significant gain scores at posttest, with the self-control subjects showing significantly greater improvement than assertion skills subjects.

As in the previous study (Fuchs & Rehm, 1977), Rehm et al. (1979) found no significant differences between treatments on the SE and SR measures, but did find the self-control subjects to be superior in regard to self-control attitudes and beliefs at posttest. The self-control subjects also demonstrated significantly higher activity levels as measured by the Pleasant Events Schedule at posttest, while reinforcement potential was not significantly different between treatments.

Assertion skills measures produced mixed results. The self-control subjects were significantly higher on



self-ratings of personal adequacy at posttest, a reflection of the self-control training relative to self-evaluative criteria. The assertion skills subjects were significantly higher on a variety of observed social skills at posttest.

Rehm, et al. (1979) offer a guarded conclusion that the self-control treatment is superior to assertion skills training. A perceived flaw in this conclusion is that the random assignment of subjects to the two conditions fails to match specific deficits to particular modes of treatment. Consequently, subjects with pronounced social skills deficits might have shown greater improvement under that condition than under the self-control condition and vice-versa. Therefore an effort to match subjects to treatment might have produced different results. The study does, however, provide support for the position that the self-control therapy has wider applicability.

Additionally, Rehm, et al. (1979) note that the findings are comparable to those of Fuchs and Rehm (1977) in terms of overall effectiveness of the self-control treatment. Both studies were applied to subjects drawn from the same population (depressed female volunteers, ages 18-60, residing in Pittsburgh).



Neither study was directed toward evaluating elements of self-control therapy in light of hypothesized deficits in self-control skills. Nor did either study attempt to validate the concept of self-control skills by matching subjects to treatment according to primary self-control deficit. The relationship between gains on any hypothesized measure of self-control skills and gains on measures of depression was not evaluated.

A study obtained after the formulation of the hypotheses upon which the present study is based represents an attempt to disassemble the therapy and evaluate its components. Rehm, Kornblith, O'Hara, Lamparski, Romano and Volkin (in press) tested therapies based on SM only, SM+SE and SM+SR against the total treatment package. Rehm, et al. (in press) did not employ the previous experimental assessment instruments (SEQ and CAT) choosing instead to employ a variety of experimental behavioral measures. No consistent effects were found for separate treatment components. Rehm, et al. (in press) concluded that continuation of SM training throughout the course of the six-week program for all groups might have produced effects which made the differential effects of SE and SR too small to be effectively measured.



### Objectives of the Present Study

The present study represents an attempt to further explore both theoretical and methodological considerations of the self-control model of depression and the group treatment based on that model. Previous research has provided evidence of the effectiveness of a group treatment designed to ameliorate hypothesized deficits in self-control skills. In establishing that treatment modality as an effective intervention technique, the investigators have provided some construct validity for the model. It remains to be seen, however, if the improvement resulting from administration of this intervention is indeed the result of the modification of specific skills identified by Rehm (1977). It also is of interest whether depression as viewed under the self-control model is the result of a global deficiency in self-control skills (SM+SE+SR) or whether individuals demonstrating variability in these skills can be helped through remediation of their primary deficit area.

To the extent that deficits in self-control skills are variable, it is important to determine the differential effects that remediating those skills have in reducing levels of depression. In order to determine the efficacy of identifying specific self-control



deficits and to test the validity of the experimental instruments used to measure self-control skills, the present experiment was conducted within a 2 x 3 factorial design. Subjects within each of the two groups occupied one of three vertical strata according to measured self-control deficits. Accordingly, each group contained a subset of subjects whose primary self-control deficit hypothetically matched that treatment modality.

To effectively isolate the differential effects of SE and SR training, the practice of keeping SM logs was terminated after the first two sessions, with subsequent sessions focusing exclusively on SE and SR assignments.

A final area to be examined is the possibility of additive or interaction effects between SE and SR. If, as Rehm (1977) proposes, SE serves as the process by which the individual judges her performance and provides discriminative stimuli precedent to either SR+ or SR-, then improving SE skills should lead to increased SR+ and reduced SR-. Consequently, increases in SE skills should be a necessary precursor to effective administration of SR. Increases in SE skills should lead to increases in SR+ and reductions in SR- even without specific SR training.

The present study relies on previous findings



(Fuchs & Rehm, 1977; and Rehm, et al. 1979) in order to make certain determinations and contrasts, while fully acknowledging the possibility of certain population (Kissimmee, Florida vs. Pittsburgh, Pennsylvania) and therapist differences.

The differential and comparative effects of SE and SR treatment of depression were examined. In order to facilitate such an examination while remaining consistent with previous research on the self-control model and treatment of depression, two specific interventions were devised consisting of SM + SE + SR respectively. These treatments were adapted from therapy manuals devised by Rehm (Note 2) and Rehm and Kornblith (Note 3). Limitations on the availability of subjects (a function of the small population base from which subjects were solicited) precluded a separate examination of the sole effects of an SM treatment.

Hypotheses. The following predictions were made based upon the self-control model of depression (Rehm, 1977):

- (1) Subjects matched to treatment according to primary self-control deficit would show significantly greater reduction in depression as measured by the BDI, MMPI, and group interaction ratings than those whose treatment was not matched to primary deficit.



- (2) Subjects in the SE condition would show greater reduction in depression than those in the SR condition as measured by the BDI, MMPI and group interaction ratings.
- (3) Subjects in the SE condition would show greater reduction in overall pathology than those in the SR condition as measured by total MMPI elevation.

No predictions regarding differences between pre and post-treatment levels of depression were made due to the lack of a control group.



## Method

### Subjects

Recruitment. In order to provide consistency with previous studies (Fuchs & Rehm, 1977; Rehm, et al. 1979) similar recruitment and selection procedures were employed. Depressed women, ages 18-60, were recruited through articles appearing in local newspapers circulated in Kissimmee, Florida (see Appendix A). Thirty-one women, ages 18-56, responded by contacting the mental health center operated by Mental Health Services of Osceola County, Incorporated. Each respondent received an appointment with the experimenter for a screening interview and administration of a pre-treatment assessment battery. At the time of the interview, all candidates were given basic information relative to the general nature of the therapy program (without specific reference to the differences between treatments) and the research of which the program is part. All subjects were advised of the requirement that they post ten-dollar deposits which would be refunded at the conclusion of post-treatment testing.

Though the entire project was conducted at the mental health center, all data remained outside normal



channels, thereby ensuring that the subjects would have no permanent record of their treatment. This procedure also exempted the subjects from the normal "sliding-scale" mental health center fees. Permission for these exceptions to center policy was obtained from the center's executive director and concurred with by the clinical staff.

Selection. Subjects were selected for the study on the basis of several criteria: MMPI profile; BDI response to item I, reflecting suicide potential; and the screening interview. A non-compensatory procedure was employed in which failure to meet any of the criteria resulted in rejection.

The MMPI was used both to identify level of depression and to isolate depression as the primary pathology. Acceptable profiles consisted of: (1) F scale less than or equal to 80; (2) L scale less than or equal to 60; (3) D scale greater than or equal to 70; (4) D scale greater than both Hy and Pt; (5) and D scale one of the two higher scales.

Item I of the BDI, supplementary to other data was used to assess suicide potential. Answers given a weight of three (suicide potential indicated) served as grounds for rejection.



A structured interview was conducted to further evaluate suitability for the study (see Appendix B). Subjects were rejected if answers to the interview questions revealed any history of psychiatric hospitalization or suicide attempts. Additionally, subjects were not accepted if they had received any psychotherapy, chemotherapy or counseling within the past 30 days.

The above selection criteria are consistent with those employed by Fuchs and Rehm (1977) and Rehm, et al. (1979).

Subjects meeting the screening criteria were telephoned by the experimenter and informed of the date and time of the first session. Those not meeting the criteria were gently informed of that fact by the experimenter who gave recommendations as to other courses of treatment available. A total of 17 subjects were accepted into the program. This constitutes 55% of those who responded. Of the 14 not accepted, eight were not sufficiently depressed, three showed primary pathology other than depression, two were presently in therapy at the mental health center (one for a psychotic disorder) and one had been hospitalized for a severe depressive episode (treated with electro-convulsive therapy). None presented profound suicide risk.



### Dependent Measures

A total of seven dependent measures were administered. Five self-report measures were administered in the pre-treatment battery and the sixth and seventh measures, direct behavioral observation, were performed during the first therapy session.

Self-report measures. All five self-report measures were taken in the week prior to the first therapy session. Two of the instruments, the BDI and MMPI, assessed level of pathology, while the other three, the Pleasant Events Schedule (PES), Self-Evaluation Questionnaire, and Common Associates Test, served as measures of hypothesized self-control skills.

The MMPI-D scale served as a measure of depression, while overall elevation of the clinical scales was used as an indication of overall pathology. The MMPI-D scale has been employed widely in depression research (e.g. Lewinsohn & Libet, 1972; Lewinsohn & Graf, 1973; Libet & Lewinsohn, 1973) as a primary self-report measure of depression. Among its limitations are test-retest reliabilities ranging from  $r=.50$  to  $r=.90$  (Anastasi, 1968) and its questionable sensitivity to the non-affective components of depression (Beck, 1967).

Because of the apparent limitations of the MMPI as a primary depression measure, the BDI was also employed.



Beck (1967) argues that the BDI better accounts for the behavioral and cognitive manifestations of the disorder. Fuchs and Rehm (1977) and Rehm, et al. (1979) employed a paper-and-pencil version of the BDI, an instrument originally designed for administration by a trained clinician (Beck, Ward, Mendelson, Mock & Erbaugh, 1961). Beck (1967) reports validity coefficients ranging from .65 to .75 when the BDI is correlated with other measures including the MMPI-D scale and clinical judgements. To date, no reliability or validity figures specific to the paper-and-pencil administration are available. The BDI consists of 21 groups of symptom-related items. Each subject response is weighted on a 0-3 scale, with the composite total of scores taken as an indication of level of depression. From the two standardization samples totaling 409 subjects, mean scores for non-depressed, mildly depressed, moderately depressed, and severely depressed were 10.9, 18.7, 25.4 and 30 respectively. Because of the extensive effort to standardize the BDI solely as a measure of depression, and because it was used as a primary measure in previous research on the self-control model, the BDI was used in the present study as the primary dependent measure of depression.

The Pleasant Events Schedule was employed as a



measure of SM skills. The PES was developed for the behavioral assessment of depression. Lewinsohn and Graf (1973) developed a 49-item version, consisting of those items found to be pleasant to greater than 10% of experimental subjects. In the present study, the PES was used to assess the subjects' ability to recall pleasant events occurring in the past 30 days. The ability to recall these events is hypothesized to reflect SM skill. Subjects first rated the 49 items according to whether they had been experienced and how often. Then the subjects rated each item according to perceived level of pleasantness. Frequency and valence were computed separately. Both frequency and valence (reinforcement potential) of perceived pleasant activities have been found to be significantly related to mood (Lewinsohn & Libet, 1972). No validity figures exist specific to the PES as a measure of SM skill.

The SEQ was developed (Fuchs, 1976) as a measure of SE skills. Subjects rated themselves on 18 separate dimensions according to perceived and ideal self (how they see themselves functioning at present vs. ideal performance criteria). Differences between perceived and ideal self were viewed as reflections of current SE functioning. No reliability or validity data on this experimental instrument have been generated.



Hypothesized SR skills were assessed with a 40-item Common Associates Test (Fuchs, 1976). The CAT requires subjects first to list their impression of how most people would respond to the 40 word associations. They then indicate whether they would judge themselves to be "right" or "wrong" on each item. "Right" designations are presumed to reflect SR+ and "wrong" to be SR-. Fuchs (1976) reports the mean SR+ for a non-depressed college population to be 16.3 and the mean SR- to be 6.4. As with the other two experimental instruments, no published reliability or validity data exist.

All five self-report measures were administered pre and post-treatment.

Behavioral Observation. Two behavioral assessment measures were obtained. The subjects' interaction levels were tested on two dimensions: Total number of verbalizations and response elicitation. The first measure is intended to reflect gross levels of interaction, while the second is intended to measure social skill in terms of how many subjects followed a topic introduced by each subject.

Following initial greetings and collection of deposits during the first therapy session, the therapist prompted each of the subjects in turn to discuss their reasons for volunteering for the project. Each subject



was required to speak for at least 60 seconds. Additional prompting was employed for those whose verbalizations were initially less than 60 seconds in length. After each subject had spoken, the therapist excused himself from the room, encouraging the group to continue their discussion. The therapist remained outside the room for a 10-minute interval, during which time two trained raters who were inside the room since the session began recorded their responses. The raters had been introduced as center staff members who were assisting with assessment procedures. The same procedure was repeated during the final therapy session.

The raters, both masters level psychologists employed by the mental health center, had previous experience with behavioral assessment procedures. Each received two hours of training relative to this specific procedure. Included in the training was a 10-minute mock assessment in which an interrater correlation of .92 was achieved on total number of verbalizations.

A completed verbalization was recorded if the subject spoke, regardless of length of verbalization. A new verbalization was recorded if another speaker talked or if the same speaker talked again following a 20-second pause.



Response elicitations were computed according to the percentage of group members who spoke on the topic introduced by any one member. A mean percentage was then computed.

The ratings were conferenced with the experimenter, who in cases of discrepancies, adopted the more conservative rating. This same procedure was followed at post-treatment testing.

#### Therapist

To control for therapist differences, the experimenter served as therapist for both groups. The therapist had prior experience in conducting group therapy and in administering self-control treatment to both depressed women and men seen individually in counseling at the mental health center. At the time of the project, the therapist was an M.S. candidate serving his clinical internship at the mental health center. Review of the experimental therapy groups was incorporated into weekly meetings with his clinical supervisor. These weekly supervision meetings were used in part to control therapist bias through discussion of possible sources of differential treatment. In an additional attempt to control therapist bias, all data was sealed following selection procedures to prevent bias arising from subject-to-subject differences



during the course of therapy (experimenter/therapist bias will be addressed in the Discussion section).

Sex of the therapist is the only major departure from the procedures employed in the two precedent studies (Fuchs & Rehm, 1977; Rehm, et al. 1979). Both studies employed female therapists.

#### Assignment to Experimental Condition

Subjects were first randomly assigned to each of the two treatment groups. Two changes were made following an analysis of the self-control measures. One subject from each group was moved to the opposite group to fulfill the demands of a 2 x 3 factorial design. Each of these two subjects was randomly drawn from her respective stratum (as defined by primary self-control deficit).

Three strata were identified according to primary deficit as defined by the SE and SR measures: Primary SE deficit, primary SR deficit and no significant differences, scores on the SE and SR measures were converted to standard (t) scores, and significant differences defined as one-standard deviation differences between scores.

Of the eight members assigned to the SM + SE group, three were classified as having primary SE deficits, three as having primary SR deficits and two as having



no significant primary deficit. Of the nine subjects in the SM + SR group, three showed primary SE deficits, four showed primary SR deficits and two showed no primary deficit.

The decision not to use a no-treatment control group was made on ethical bases so as not to give subjects initial hope for amelioration of current suffering only to delay treatment. Ample evidence exists (e.g. Fuchs & Rehm, 1977; Rehm, et al. in press) that depressed subjects selected under the criteria utilized herein typically do not improve significantly over the passage of a six-week period if untreated. Still, this design limitation is noted and further references to pretest vs. posttest differences prefaced with acknowledgement of this limitation.

#### Treatment Procedures

The two separate therapy regimes employed in the present study were designed to remain consistent with the previously designed self-control therapy (Fuchs & Rehm, 1977) while eliminating one variable which could potentially confound the attempt to compare SE and SR components of the treatment packages: After two sessions of SM training, subjects in both groups were instructed to cease keeping daily SM logs. Because SM is considered a crucial sequence, it was not eliminated



completely. The data generated by the two weeks of SM provided material which was later employed in the SE and SR assignments.

Group I. Group I received a treatment based on the self-control principles of SM and SE. According to Rehm's (1977) model, depressed persons selectively attend to negative events (SM) and set overly stringent criteria for the evaluation of their own behavior (SE). The SM + SE therapy was designed to remediate these specific deficiencies in self-control skills. All sessions were conducted in strict accordance with a therapy manual (see Appendix D).

The first session was devoted to introductions, collection of deposits, behavioral assessment, presentation of rationale for the program and introduction of the SM assignment. Once deposits were collected, and the subjects were informed of the parameters of confidentiality, the therapist initiated a member-by-member presentation of reasons for joining the group. Upon completion of those presentations, the therapist excused himself from the room while the assessment was conducted. Upon his return, the therapist presented the rationale behind SM and SE training in the treatment of depression. Subjects were encouraged to begin discussing their problems in terms of their behavior



and how it related to their SM and SE skills. Copies of the Positive Activities Survey (see Appendix C) and SM logs (see Appendix C) were distributed and the subjects were instructed as to their use.

Session two opened with a review of SM principles and details of the SM assignment. Individual logs were examined and problems with identifying positive versus negative activities were discussed. Emphasis was placed on the importance of attending only to positive activities and the mood encountered during those activities. It was explained that since mood is in large part a function of behavior, the goal of effective SM is to identify activities which result in elevated mood. To assist in graphically demonstrating this relationship, the subjects were given mood and activity graphs (see Appendix C) and instructed as to their use. During the session, the subjects graphed their daily levels of positive activities along with their daily mood averages to demonstrate the parallel relationship between mood and activity. The homework assignment for the next week was to continue SM and graph the next week's mood and activity levels.

Following a brief review of the SM assignments, Session Three focused on the concept of SE and its relationship to depression. The didactic presentation



centered upon the types of self-evaluations exhibited by depressed individuals: Unrealistic standards of success, unattainable goals, goals dependent upon the behavior of others, all-or-none standards of success and distant goals with no logical intermediate steps. Group discussion was initiated in which subjects were encouraged to assess their own evaluative criteria. This material was then used in the presentation of adaptive SE principles. Goals should be defined in terms of positive gain, attainability and resting within the subject's control rather than others. Subjects were given printed examples of positive goals and subgoals (see Appendix C) used to evaluate progress (the introduction of covert reinforcers was specifically omitted to avoid confounding with the SM + SR treatment). Self-evaluation worksheets (see Appendix C) were distributed and the subjects were directed to formulate one short-term goal (attainable within one week) and subgoals in the coming week.

Session Four was devoted to a review of the week's assignment together with a review of the SE goal setting principles. Each subject's worksheet was examined and feedback given as to how well the goal and subgoals met those principles: Positive, attainable and within the subject's control. Group feedback and discussion of



each subject's assignment was encouraged. The therapist attempted to model appropriate feedback and reinforced any appropriate feedback given by group members. The next week's assignment was to initiate a longer-range goal based on the same principles.

Session Five began with a review of the progress observed in the previous week's assignments in terms of the goal-setting criteria. Individual long-range goals established during the week were individually assessed in terms of their positive nature, attainability, and degree to which they were within the subject's control. Revision of goals not meeting these standards was encouraged and the other group members called upon to assist in this function. The need to continue to break goals down into still smaller units was stressed. Emphasis was placed upon attending to success in achieving subgoals as a way of disputing previous beliefs about personal incompetence and ineffectiveness.

Session Six began with a brief review of the rationale behind goal-setting as a means of enhancing SE skills. The subjects were asked one-by-one to discuss their progress toward goal-direction and personal effectiveness. The therapist then excused himself from the room for the 10-minute behavioral assessment period. Upon his return, the therapist reviewed the



principles of SM and SE and how they relate to the behavior of depressed persons. The subjects were then given an open discussion period during which they could seek additional feedback on their goals, indicate their current level of functioning and voice satisfaction and concerns about their success in the program. The therapist followed with general recommendations for the maintenance of any improvement the subjects had experienced and made individual appointments for post-treatment interviews.

Based on the post-treatment data and observations from the six treatment sessions, the therapist provided each subject with a package of maintenance materials including a bibliography of suggested readings and self-control information relative to each subject's needs. Deposits were refunded.

Group II. Group II received a treatment based upon the self-control principles of SM and SR. According to Rehm's (1977) model, depressed persons selectively attend to negative events (SM), administer low rates of self-reinforcement (SR+) and administer high rates of self-punishment (SR-). The SM + SR therapy was directed toward remediating these specific deficiencies in self-control skills. This therapy regime was conducted in strict accordance with a separate therapy manual (see Appendix D).



The first session differed from the SM + SE group only with respect to instructions relative to the role of SR. It consisted of the collection of deposits, introductions, behavioral assessment, presentation of program rationale and introduction of the SM assignment. After deposits were collected and the parameters of confidentiality were explained, the therapist initiated a member-by-member discussion of reasons for joining the group. After this discussion, the therapist excused himself and the behavioral assessment period ensued. Upon his return, the therapist presented the rationale behind the SM and SR training in the treatment of depression. Subjects were encouraged to begin discussing their problems in terms of their behavior and how it related to SM and SR skills. Copies of the Positive Activities Survey and SM logs were distributed and the subjects instructed in their use.

Session Two opened with a review of SM principles and details of the SM assignment. Individual logs were examined and problems in identifying positive activities versus negative activities were discussed. Emphasis was placed on the importance of attending only to positive activities and the mood encountered during those activities. In order to facilitate understanding of the relationship, the subjects were given mood and



activity graphs and instructed as to their use. During the session, the subjects graphed their daily levels of positive activities along with their daily mood averages to demonstrate the parallel relationship between mood and activity. The homework assignment for the next week was to continue SM and graph the next week's mood and activity levels.

Following a brief review of the SM assignments, Session Three focused on the concept of SR and its relationship to depression. The didactic presentation stressed the role of reinforcement in maintaining behavior, and that depression can be viewed as low rates of responding on a variety of behavioral dimensions. The role of adaptive SR+ is to bridge the gap between behavior and external reinforcers. It was explained that depressed individuals can provide their own reinforcers as a means of increasing certain levels of adaptive responding. While the subjects were instructed to cease their SM exercise, they were called upon to utilize data from their SM logs to compile a "reward menu" (see Appendix C). This consisted of a list of reinforcers which the subjects could self-administer. Each reinforcer was given a "price" or requisite value ranging from one to ten according to how pleasurable the subject judged it to be. During



the session, each subject listed five such reinforcers. Their assignment for the coming week was two-fold: (1) Add at least one new reinforcer to the list each day; (2) plan at least one activity per day and administer an appropriate reinforcer.

During Session Four, the subjects were instructed in the use of the Premack principle. It was demonstrated how low-level (or difficult) positive activities can be rewarded by high-level positive activities. Additionally, the concept of covert reinforcement was introduced. An Assets List (see Appendix C) was distributed. The subjects were instructed to write down a self-praise statement each time they completed a target activity. A group discussion was then initiated in which subjects discussed the relative difficulty they had in making positive self-statements. Efforts by group members to assist others in devising such self-statements were specifically reinforced by the therapist. The assignment for the coming week involved continuing to add both to the list of positive reinforcers and to the Assets List.

Session Five began with a review of the role of SR+ and SR- in shaping and maintaining behavior. Individual assignments were reviewed to ensure that both overt and covert reinforcers were being properly administered. Group interaction was encouraged to provide



feedback to subjects experiencing difficulty. Efforts by group members to assist others were reinforced by the therapist. The concept of SR- was discussed in terms of its contrasting effect to SR+. The negative effects of punishment, both externally, and internally imposed, were discussed, but no strategy for reducing SR- was introduced. The assignment for the coming week was to increase the number of specifically-reinforced target activities from one to two and to continue to add to the Assets List.

Session Six opened with a brief review of how SR principles are related to depression. Subjects were encouraged one-by-one to discuss their individual success and problems with the assignment and to relate how it had or had not improved their respective levels of functioning. The therapist then left the room for the 10-minute behavioral assessment period. Upon his return, the therapist reviewed the principles of SM and SR and how they relate to the behavior of depressed persons. The subjects were then given an open discussion period during which they could seek additional feedback on their use of SM and SR skills. They were free to discuss their respective levels of satisfaction or concerns. The therapist followed with general recommendations for the maintenance of any improvement the



subjects had experienced and made individual appointments for post-treatment interviews.

Based on the post-treatment data and observations from the treatment sessions, the therapist provided each subject with a package of maintenance materials, including a bibliography of suggested readings and self-control information relative to each subjects needs. Deposits were refunded.

Major Differences. The two treatments differed only with respect to components relative to SE and SR respectively. Beginning with the third session, the SM + SE group began work on goal-directed behavior aimed at altering performance criteria while the SM + SR group was directed to raise levels of self-reinforcement (overt and covert). The differences are reflected in the therapy materials themselves: The self-evaluation worksheet employed in the SM + SE condition vs. the self-reward menu for the SM + SR condition. Whereas the SM + SE group embarked on a structured hierarchy of goals, the SM + SR group used no specific guidelines for goal-setting or structuring activities except to follow target behaviors with rewards. Conversely, the SM + SE group did not follow achieved goals with direct rewards; achievements were used to dispute beliefs of incompetence.



## Results

### Subject Characteristics

Of the original 17 subjects selected for the study, five dropped out during the first two weeks; two from the SM + SE condition and three from the SM + SR condition. There was no significant difference in drop-out rates between conditions,  $\chi^2(1) = .114$ ,  $p > .75$ ; and since the dropouts occurred during the first two weeks, there was no differential effect due to treatment condition. Ad hoc analysis of variance showed no pre-treatment differences between the total sample and either of the two treatment groups on level of depression, overall pathology, self-control skills, or age. Dropouts did not differ significantly from subjects who completed the study on level of depression, overall pathology, self-control skills, or age.

Of the five subjects who dropped out, three attended one session, one attended two sessions, one subject failed to attend any sessions. Telephone inquiries revealed that one subject dropped out after one session because she believed the program could not help her; two subjects from the SM + SR condition dropped out over a dispute arising from an extra-session



breach of confidentiality following the first session; one subject dropped out after two sessions stating that she was to enter the hospital for treatment of a respiratory ailment; and the subject who dropped out prior to the first session declined to state a reason for doing so.

All further data analyses will include only those subjects who completed the study. Final sample sizes were equal ( $n = 6$  for both SM + SE and SM + SR conditions). To assess for pretest differences between groups, t-tests were performed. No pretest differences even approaching significance were found on levels of depression, overall pathology, behavioral interaction ratings, self-control skills, age or years of education.

The mean ages of the SM + SE and SM + SR conditions were 46.167 and 44 respectively in a range from 18 to 56 with an obvious loading at the upper end of the range. The SM + SE condition consisted of two housewives and four employed women. The SM + SR condition consisted of one housewife, one retired widow and four employed women. Mean years of formal education were 12.5 and 12.833 respectively.

#### Statistical Analyses

The requirements of the projected  $2 \times 3$  factorial design were not met by the final sample compositions.



Therefore no test of the first hypothesis 1 could be attempted (only one subject showing a primary SE deficit remained in the SM + SR condition). In assessing suitability for an alternate statistical analysis, it must be noted again that the groups did not differ significantly on any of the dependent measures at pretesting. Further, it must be noted that the designations of "primary self-control deficit" were made on the basis of relative intrasubject differences on the self-control measures (based on standard score conversions) for each individual and not on quantitative differences between subjects. Therefore, homogeneity of variance can be assumed based on the pretest data for all measures, and the t-test appropriately employed to analyze differences between groups.

Depression. A comparison of depression levels as assessed by the primary depression measure, the Beck Depression Inventory (BDI) yielded significant treatment effects but in a direction opposite to prediction (see Table 1). Subjects in the SM + SR condition were significantly less depressed at posttest, t (10) = 2.861, p < .01. Both groups improved significantly between pretest and posttest. Subjects in the SM + SR condition showed greatest improvement, t (10) = 3.823, p < .005. Subjects in the SM + SE condition also



Table 1  
Summary of Data

Measure	Condition	n	Pretherapy		Post-therapy	
			<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
BDI	SM+SE	6	23.00	5.21	12.83	4.79
	SM+SR	6	20.67	8.85	5.33	4.27
MMPI-D	SM+SE	6	78.00	8.62	65.00	9.18
	SM+SR	6	83.16	9.19	64.17	9.47
MMPI-Total	SM+SE	6	629.88	40.71	590.67	45.29
	SM+SR	6	658.50	48.89	562.17	55.62
Verbalizations	SM+SE	6	11.83	15.25	17.67	8.45
	SM+SR	6	8.83	3.37	18.00	4.86
Response Elicitation	SM+SE	6	.57	.20	.62	.15
	SM+SR	6	.50	.15	.59	.01
PES-A	SM+SE	6	47.50	11.71	55.83	14.88
	SM+SR	6	55.83	12.04	68.67	16.51
PES-B	SM+SE	6	78.33	9.97	70.00	12.85
	SM+SR	6	77.00	20.48	82.17	21.78
SEQ	SM+SE	6	118.50	23.58	115.67	23.00
	SM+SR	6	120.00	26.43	137.50	28.44
SE (present)	SM+SE	6	48.30	13.89	48.30	16.58
	SM+SR	6	58.83	18.26	79.83	24.70
SE (criteria)	SM+SE	6	94.83	24.27	100.83	20.87
	SM+SR	6	90.17	27.50	96.67	14.68
CAT (SR+)	SM+SE	6	18.67	10.67	16.17	12.14
	SM+SR	6	17.17	10.50	19.00	7.77
CAT (SR-)	SM+SE	6	2.83	2.92	7.33	6.41
	SM+SR	6	2.67	3.88	5.33	9.20



improved significantly,  $t(10) = -3.516$ . Using Beck's (1961) criteria for measuring depth of depression, the between-group differences can be further illustrated: At posttesting, five of the SM + SE subjects were in the mild-to-moderate range and one member was within normal limits. In contrast, only one SM + SR subject remained in the mild-to-moderate range while five were within normal range (see Table 2).

On the Minnesota Multiphasic Personality Inventory Depression Scale (MMPI-D), significant effects were not found. The SM + SR group showed greater reduction in MMPI-D elevation, however the results were not significant.

Table 2  
Beck Depression Inventory

Group	Normal ( $< 11$ )	Mild to Moderate (11-25)	Severe ( $> 25$ )
SM + SE			
Pretest	0	4	2
Posttest	1	5	0
SM + SR			
Pretest	0	5	1
Posttest	5	1	0



Each of the two behavioral observation measures of depression was analyzed independently. On the first of the measures, mean total verbalizations, there was no significant treatment effect. The SM + SR group, however showed a significant increase in mean total verbalizations between pretesting and posttesting,  $t(10) = -3.79$ ,  $p < .005$ . The lack of significant effects for the SM + SE can be accounted for by the extremely high within-group variance caused by a single, highly deviant subject.

On the second of the behavioral observation measures, response elicitation ability, both groups improved slightly, but the effects were not significant. There was no significant between groups effect.

All results on measures of depression were contrary to prediction. While both groups showed significant improvements on both the BDI and MMPI-D, the SM + SR group was clearly less depressed on the primary measure of depression (the BDI) at posttesting. Therefore, the second hypothesis is not confirmed.

Overall Pathology. Overall pathology was assessed in terms of total elevation on the ten clinical scales of the MMPI. No significant treatment effects were found in a comparison of posttest elevations. The SM + SR group did, however, show significant improvement



between pretesting and posttesting,  $t(10) = -3.186$ ,  $p < .005$ . Viewed in terms of gain scores based on the pooled variance estimate, the difference in overall improvement is supported. The SM + SR group showed significantly greater improvement in overall pathology,  $t(10) = -2.073$ ,  $p < .05$ .

Again, the results were contrary to prediction. Therefore the third hypothesis is not confirmed.

Self-control Measures. On the first of the self-control measures, the Pleasant Events Schedule (PES), subjects in both groups showed moderate improvement, but not at significant levels. Additionally, there was no significant treatment effect, although the SM + SR subjects were moderately higher on the PES at posttesting. Since in terms of the self-control model, the PES activity level score (PES-A) is viewed as a measure of SM skills, it can be concluded that SM skills were not effected differentially due to treatment. This is consistent with the intentions of the present study, insofar as both treatment conditions were given only two weeks of SM training in order to adequately assess the differential effects of SE and SR training. Since both groups improved moderately but not significantly on this measure and because there was no significant difference between conditions at posttesting, it can



be concluded that significant differential effects on other measures were not due to SM training.

On the second measure derived from the PES, the rating of activity valence, or reinforcement potential (PES-B), the results were somewhat different. There were no significant differences in PES-B ratings at posttesting. The SM + SR condition demonstrated a non-significant increase in PES-B ratings at posttesting, while the SM + SE condition showed a non-significant decrease in PES-B ratings. Assessed in terms of gain, scores using the pooled variance estimate, the SM + SR group showed significantly greater gains on the PES-B ratings,  $t(10) = -8.956$ ,  $p < .001$ . It can be concluded that there was a significant treatment effect on gains in the reinforcement potential of activities.

In comparing scores on the hypothesized measure of SE skills, the Self-evaluation Questionnaire (SEQ), a constant of 162 was added to the difference between ratings of "current self" vs "ideal self" in order to avoid negative scores (Fuchs, 1976). No significant treatment effects were revealed at posttesting. Neither group showed significant improvement on the SEQ between pretesting and posttesting. The SM + SR group showed a non-significant increase on the SEQ, while the SM + SE group showed a moderate but not significantly greater



gain on the SEQ.

Dissassembly of the SEQ showed entirely different results, relevant to the instrument as well as to the concept of self-evaluation. When the assessments of "current self" and "ideal self" are analyzed separately, it can be seen that the SM + SE subjects demonstrated virtually no change in assessment of "current self" while actually raising the standard of "ideal self" slightly (but not significantly). This accounts for the decrement in the SEQ score for the SM + SE condition. The SM + SR group showed a moderate but not significant increase in assessment of "current self" between pretesting and posttesting, and a small but non-significant increase in "ideal self" ratings. The between-group posttest differences in ratings of "current self" were significant in favor of the SM + SR group,  $t(10) = -2.594$ ,  $p < .025$ . The between-group differences in ratings of "ideal self" were not significant at posttesting.

It can be concluded that the SM + SR condition was significantly higher on ratings of current functioning at posttest than was the SM + SE condition.

The hypothesized measure of SR skills, the Common Associates Test (CAT) failed to reveal significant treatment effects or rates of improvement. On the SR+



rating, the SM + SR condition showed a slight but non-significant increase, while the SM + SE condition showed a slight but non-significant decrement. Rates of gain on the SR+ measure were not significantly different.

On the CAT measure of SR- skills, both groups showed a slight but non-significant increase. This unexpected result can readily be interpreted as a regression toward the statistical mean for a normal population (Fuchs, 1976). The assumption that the CAT accurately reflects SR- skills in a depressed population is not confirmed by these results.

Posttest Interview. Following posttest assessment, each subject was given a debriefing interview which dealt with some of the material revealed by posttest data and an informal questionnaire.

The questionnaire (see Appendix B) revealed no significant between-groups differences on any of the quantitative items (revelence of the material, helpfulness of the material, effort exerted on homework, satisfaction with the program). In rating the impact of a male therapist, the SM + SE group was split three ways: 50% indicated it to be no problem, 33% considered it to have been a positive aspect and 17% (one subject) considered it an initial problem which was overcome; none considered the sex of the therapist to be an



obstacle to improvement. Similar findings were found from the SM + SR group: 83% considered the sex of the therapist to present no problem, while for 17% (one subject) it was an initial problem which was overcome; none considered it to be a positive feature.

In rating the homework assignments, 50% of the SM + SE group rated the homework a pleasant experience, 17% rated it neutral, 17% rated it a necessary annoyance and 17% thought it simply to be an annoyance. Of the SM + SR subjects, 50% considered the homework to be pleasant, 17% rated it neutral and 33% rated it a necessary annoyance.

In recommending future programs, 33% of the SM + SE group recommended it to both men and women, while 67% recommended it to both men and women on a regular basis. Of members of the SM + SR group, 83% indicated it should be offered regularly to both men and women, while 17% simply recommended that a program of this nature should be offered regularly.

In seeking direction for further improvement, 67% of the SM + SE group requested information on self-improvement (three were interested in assertiveness training and one wanted information on weight reduction). Of that group, 17% (one member) felt no further help was necessary, and one was unsure what she needed. Of



the SM + SR condition, 67% wanted information on self-improvement (assertiveness, beauty advice), 17% (one subject) wanted more information on behavioral self-control and 17%, one subject, felt no additional help to be necessary.

In rating the relative preferability of group vs. individual therapy, 83% of each group preferred group, while 17% (one member) of the SM + SE group preferred individual treatment and 17% (one member) of the SM + SR group was unsure.

In requesting further treatment avenues, only one member of either group (SM + SE) requested intensive individual therapy. Two members of the SM + SE group stated an interest in but not a need for further group involvement, while three members of the SM + SR group stated an interest in but not a need for further group involvement.

Arrangements for individual therapy were made for the subject requesting intensive therapy. Plans were initiated for a followup group and the option for participation left to the subjects expressing an interest.

Data gathered from the posttest interview and questionnaire will be used to assist in further program planning at the mental health center. Implications of the study for the field of community mental health



will be discussed.



## Discussion

### Comparability to Previous Studies

Subject Characteristics. Subjects for the present study, though drawn from a different geographically-defined population, were selected according to essentially the same criteria as subjects selected by Fuchs and Rehm, 1977 and Rehm, et al. 1979. Subjects in the present study were generally older (mean age 45.08 in the present study; 28.8 in Fuchs & Rehm, 1977). Means on all other measures are comparable with these two previous studies.

In comparison to subjects in Rehm, et al. (in press), subjects in the present study are comparable in terms of age, but demonstrate lower levels of pathology (subjects were selected by Rehm, et al. in press, under slightly different criteria, allowing for a more severely disturbed population). Rehm, et al. (in press), utilized a design intended to better define certain motor characteristics of depressed populations and did not assess varying levels of self-control skills. In those respects, the present study is not comparable to Rehm, et al. (in press).



Therapist Differences. Therapists in the previous studies were female, while in the present study, the therapist was male. Differential effects due to sex of the therapist are possible, although subjective ratings by subjects in the present study give sex of the therapist a neutral valence (neither positive nor negative).

Therapists in the previous studies concerning the self-control treatment of depression were masters level psychologists with roughly the same level of training as the therapist in the present study (in terms of years of training). Differences in expertise are a possible consideration.

Therapy Differences. It was the intention of the present study to dismantle the self-control treatment of depression into two separate regimes stressing SM + SE and SM + SR training respectively. The SE and SR components were carefully designed so as not to alter previously established methods of modifying hypothesized SE and SR skills. Discontinuation of SM training after the second therapy session is seen herein as a necessary element in the search for differential effects between SE and SR training. The continuation of SM training for the SM + SE and SM + SR groups by Rehm, et al. (in press) may well have confounded such a comparison



in that study.

The present study utilized methods of training similar to previous studies with respect to SE and SR skills and is therefore comparable in terms of evaluating the differential effects of those two treatment components.

### Summary of Conclusions

None of the predetermined hypotheses was confirmed. Subjects in the SM + SE condition did not improve on any of the dependent measures to a greater degree than those in the SM + SR condition.

Both groups showed significant improvement on both the MMPI-D and the BDI. The SM + SR subjects were less depressed at posttesting as indicated by the BDI. On one measure of overt-motor functioning, total verbalizations, subjects in the SM + SR condition improved significantly, while those in the SM + SE group did not. There was no significant treatment effect on the measure of response elicitation ability.

While there was no significant posttest difference in overall pathology as measured by the MMPI total elevation, the SM + SR group improved significantly between pretesting and posttesting, while the SM + SE group did not.



On the measure of SM skills, the PES-A, neither group showed significant improvement, nor were significant treatment effects found. It can be concluded that SM training did not influence either group differentially. On the measure of reinforcement potential, the PES-B, the SM + SR showed significant gains.

On the measure of SE skills, the SEQ, there was no significant treatment effect. On the SEQ measure of current functioning, the SM + SR subjects rated themselves as functioning at a significantly higher level at posttesting. There was no significant treatment effect on ratings of ideal functioning (performance criteria), with both groups raising the standard slightly.

The measure of SR skills, the CAT showed no significant treatment effects on either SR+ or SR- rates. Both groups increased their rates of SR- slightly, possibly regressing toward the statistical mean.

### Theoretical Considerations

Rehm (1977) considered the self-control conceptualization of depression to be a heuristic model for inquiry. As such, it provides a framework within which to generate hypotheses regarding the syndrome of behaviors classified as depression. The theoretical foundation of Rehm's (1977) model is Kanfer's (1971)



model of self-control.

The core element of the hypotheses tested herein is the hypothesized mediational nature of SE. Rehm hypothesizes two ways in which dysfunctional SE skills contribute to depression: Through inaccurate attributions of causality which can lead to belief in response-consequence independence and a perceived inability to obtain positive consequences; and overly stringent criteria for success which leads to a high threshold for success and a low threshold for failure.

Kanfer's general model of self-control, on which Rehm's model is based is broader in regard to the role of SE behaviors. Kanfer (1971) views the self-evaluation process as a conditional discrimination in which the content of the monitored behavior (SM) serves as an initial stimulus to be evaluated. The judgement based on this evaluation then serves as a discriminative stimulus for either SR+ or SR-. If SR depends on the outcome of this discrimination, then more effective SE skills would be seen as a necessary condition for increasing rates of SR+ and therefore reducing the depressive behavior.

The hypotheses tested herein are based on an extrapolation of Kanfer's (1971) position in light of Rehm's (1977) application of self-control to depression. If



effective SR+ is dependent upon the discrimination made during the SE phase, then subjects whose SE behaviors are treated directly should have the necessary framework for positive self-reinforcement and therefore be in a position to effectively administer SR+, thereby completing the self-control loop. Because this feedback loop is hypothesized to be a continuous process when external reinforcers are absent, it follows that a more effective framework for SE would continue to lead to higher rates of SR+. Conversely, subjects trained only to administer SR+ without any effort to change evaluative criteria would be less able to discriminate effectively based on feedback (SM) and therefore be poor administrators of SR+. The results were contrary to this literal interpretation of the self-control model.

Again addressing both Kanfer's (1971) view of SE and Rehm's (1977) view of SE as applied to the depressive syndrome, some further observations about the nature of SE can be made. Rehm (1977) focuses on two aspects of SE functioning: (1) Internal attributions of causality; and (2) performance criteria. Kanfer (1971) sees SE in terms of: (1) Performance criteria; (2) past performance; (3) social norms; and (4) feedback. The SE therapy employed in the present study



was aimed at performance criteria and attributions of causality. Other factors such as social norms and past performance were dealt with indirectly through exclusion from goal-setting criteria.

The instrument used to assess SE functioning, the SEQ, revealed nothing when taken in its entirety (the difference between assessment of current functioning and ideal functioning). When dismantled into its two separate components, however, the SEQ yielded interesting and surprising results. The assessment of ideal functioning did not fall into line with anything resembling less stringent criteria. Indeed, if taken as a reflection of performance criteria, the criteria for ideal functioning actually became more stringent for both groups. The assessment of current functioning, on the other hand, was the more critical variable related more closely to improvement. Subjects in the SM + SR condition significantly increased their assessments of current functioning.

Kanfer (1971) draws the analogy that behaviors falling short of SE criteria could be considered "ego-alien" and therefore a source of psychodynamic tension. Such a literal interpretation might lead to the conclusion that evaluative criteria need to be lowered in order to make a more reasonable contrast and therefore



enhance the possibility of SR+ administration. The results contained herein on the other hand, indicate that criteria for ideal functioning are relatively static and certainly less malleable than assessments of current functioning (ego?). In addition, the SR treatment was the more efficacious means of enhancing assessments of current functioning. The gap between assessments of current and ideal functioning was narrowed slightly for the SM + SR group and broadened for the SM + SE group.

This finding is consistent with one aspect of Rehm's (1977) conceptualization of SE functioning: The hypothesis that depressed individuals fail to make accurate internal attributions of causality. The SR treatment would serve under this hypothesis to eliminate the belief in response-consequence independence as well as the belief in inability to obtain positive consequences (both related to Seligman's learned helplessness analogy). It is not consistent with the notion of depressed persons having overly-stringent SE criteria (which would lead to a high success threshold and a low failure threshold). The group whose SE criteria were the focus of treatment not only improved less but failed to improve at all on the SEQ.

The issue of the fundamental nature of SR+ must



also be addressed. The terminal point in the self-control loop (prior to initiation of a new chain of self-control behaviors) is SR+ or SR-. If low rates of response-contingent positive reinforcement do indeed account for depressive behavior (e.g. Lazarus, 1968; Ferster, 1973; Lewinsohn, 1974), then effective administration of SR+ is critical to the self-control treatment of depression (or any other primarily cognitive treatment). The question at hand is whether enhanced SE is a necessary precondition for effective SR+. The present study indicates preliminarily that SR+ is a necessary precondition for enhanced SE functioning. Additionally, Kanfer (1971) proposes that SE and SR are interrelated but separately modifiable. In this case, modification of SR behavior seems to have enhanced SE, whereas attempts at modification of SE behavior had questionable results (in light of the SE measure). On the other hand, the SM + SE group did improve significantly without evidence (on the SEQ) of enhanced SE skills and without direction to administer SR+. Sources of improvement, if enhanced SE behavior is not credited, include feedback (both group feedback and that derived from success at meeting goal criteria) and the possible reinforcing nature of the target behaviors. It also cannot be ruled out that SE



improved in a way unspecified and not measured by the SEQ.

A final point concerning the reinforcing properties of SR+: The SM + SR condition demonstrated enhanced "reinforceability" as measured by the PES-B. This measure of reinforcement potential of activities showed that the SR treatment decreased subjects' refractoriness to stimulation (anhedonia), whereas the SE treatment did not decrease this form of dysfunction. This finding indicates that SR+ enhances the reinforcement potential of external reinforcers. This flows logically from Rehm's (1977) assertion that depressed persons are particularly influenced by both high and low rates of positive reinforcement. The SR treatment would seem to have given subjects the tools with which to internalize control over that feature.

Correlations between BDI scores (depression) and the self-control measures (self-control skills) provide support for these conclusions (see Table 3). At pretesting, there was a significant negative correlation between depression and SEQ scores,  $r = .631$ ,  $p < .05$ . Neither the ratings of current functioning nor performance criteria were significantly correlated with depression at pretesting. This finding is not unexpected, considering the pretest data are drawn from a



Table 3

## Correlation with Beck Depression Inventory

Measure	n	Pretest	Posttest
PES-A	12	$\underline{r} = -.347$	$\underline{r} = -.647$
PES-B	12	$\underline{r} = -.723$	$\underline{r} = -.540$
SEQ	12	$\underline{r} = -.631$	$\underline{r} = -.767$
SE (present)	12	$\underline{r} = -.465$	$\underline{r} = -.820$
SE (criteria)	12	$\underline{r} = +.389$	$\underline{r} = -.088$
CAT (SR+)	12	$\underline{r} = +.335$	$\underline{r} = -.335$
CAT (SR-)	12	$\underline{r} = -.118$	$\underline{r} = -.115$

depressed population showing relatively little variability on the depression measure.

At posttesting, which represents a sample reflecting greater variability on the measure of depression (non-depressed to moderately depressed) and hence more nearly approximating a normal population distribution, the relationships are clarified. Ratings of current functioning are significantly correlated with depression,  $\underline{r} = -.820$ ,  $\underline{p} < .01$ . SEQ scores are also significantly correlated with depression,  $\underline{r} = -.767$ ,  $\underline{p} < .01$ . Performance criteria are not significantly correlated with depression. The weak relationship



(in the direction contrary to that hypothesized under the self-control model) between performance criteria and depression actually detracts slightly from the relationship between the SEQ as a reflection of self-control skills and depression.

The relationship between depression and CAT scores (SR+ and SR-) was not significant at either pretesting or posttesting. This would indicate that the instrument failed to yield data reflecting self-reinforcement skills.

The relationship between the PES-A (activity level) rating and depression is partially supportive of the role of SM in depression. While the relationship was not significant at pretesting, the data yielded a significant posttest correlation,  $r = -.674$ ,  $p < .01$ . Because previous studies (e.g. Lewinsohn & Libet, 1972) have demonstrated a significant relationship exists between activity and depression, one would expect, even within a depressed population, that significant correlation would be found. Since the pretest correlation was not significant, it might be suggested that it was not simply activity levels which were measured, but ability to perceive pleasant activities as well; i.e., pretest data reflect inaccurate perceptions of reinforcing activities.



The second PES measure, the reinforcement potential, provides some inferential support for this hypothesis. The PES-B was correlated significantly with depression at pretesting,  $r = .723$ ,  $p < .01$ . This implies that variability in capacity to identify how reinforcing an activity is follows depression a linear track; i.e. those who were better able to monitor the reinforcement potential of activities were less depressed. The correlation between the PES-B and depression level was still significant at posttesting,  $r = -.540$ ,  $p < .05$ .

These supplementary data support a feedback loop model of behavior in which: (1) Accurately-monitored behavior is fed into a self-evaluative process; (2) that behavior and its expected consequence is judged as to whether it serves the organism; (3) if it serves the organism, self-reinforcement takes place; (4) if it fails to serve or is detrimental to the organism, self-punishment takes place; (5) self-reinforcement both increases attention to similar behaviors, and alters the evaluating process by attaching positive values to self-initiated behaviors. Consequently, self-reinforcement would seem to feedback into the self-control loop by both labeling and calling attention to self-initiated behaviors which are of service to the organism. This is suggestive of strong interaction between SE and SR.



While under normal circumstances, deficient SE (few positively-labeled behaviors) leads to still lower rates of SR, an intervention which injects higher rates of SR into the loop, labels behaviors positively while calling attention to them (SM), which causes other similar behaviors to be reinforced.

### Methodological Considerations

Fuchs and Rehm (1977), Rehm et al. (1979) and Rehm, et al. (in press) have demonstrated the efficacy of a self-control treatment of depression both when applied to a population of moderately depressed women and to a population of more severely depressed women. The treatment package includes sequential administration of SM, SE and SR components over a six-week period. The present study is an attempt to explore the differential effects of the SE and SR components. As such it is not surprising that the results, while positive, were somewhat less dramatic in reduction of both depression and overall pathology. This finding bears out the efficacy of the total treatment package.

Whereas the SE component was not as efficacious as the SR component, the two are additive when applied within the total package, and therefore would seem to compliment one another. This could be seen as a



function of SR+ serving to bolster changes initiated during the SE component. Prior SE training would serve to provide additional structure for the administration of response-contingent SR+. Therefore, the present findings do not support deletion of any component. Another factor to be considered is the use of SM training throughout treatment. It should have the dual effect of providing continuous feedback about the relationship between mood and activity as well as serving as a reactive measure, thereby increasing the subjects' participation in reinforcing activities.

The present study, therefore, exposes not only the differential effects of SE and SR training but by comparison confirms both the efficacy of the total self-control package and the self-control model on which it is based.

Questions remain as to the utility of assessing individual self-control skills as well as the instruments with which those skills should be measured. The PES has proven its utility as a measure of activity level and reinforcement potential. Whether it actually reflects SM skill is a matter of conjecture; however, the instrument has face validity which cannot be confirmed until another method of assessing the true nature of SM is developed. Rehm (1980) indicates that



further study will be directed toward the psychophysical aspects of the selective attention phenomenon.

The SEQ remains a questionable instrument for the assessment of SE skill, at least in its present form. Data from the present study suggest that the subjective assessment of current levels of functioning is the more changeable and therefore more salient measure of SE. Using the present instrument as a basis, a more thorough instrument might be developed and standardized. Scores could then be based on deviation from the norm.

The CAT in its present form does not seem to distinguish well between those subjects with deviant levels of SR+ and SR- responding. As a predictor of depression-related behavior it lacked any utility in the present study.

#### Qualification of Findings

The findings generated by the present study are generalizable primarily to middle-age women living in a semi-rural community who volunteer for treatment. While the sample reflects clinical demands made upon the mental health center in Kissimmee, Florida, the volunteer nature of the subjects identifies them as coming from a population apart from those who spontaneously seek treatment for depression (this qualification is made despite the fact that many of the subjects



had previously received treatment for the disorder).

Again, lack of a no-treatment control group diminishes the impact of the findings that subjects in both conditions improved significantly.

The possibility that group treatment might have interacted differentially with the two treatments must also be addressed. Therapy manuals for the two conditions were devised so as to give each group equal opportunities for interaction at each stage in the treatment. Feedback on progress toward goal achievement in the SM + SE group, for instance, was paralleled in the SM + SR group with time for mutual feedback on the administration of SR+. Effort was exerted to make the opportunity for mutual feedback both quantitatively and qualitatively equal for both groups. Any further manipulation might have led to therapist bias.

The issue of therapist bias is likewise critical. Having the experimenter serve as his own therapist, of course, opens the avenues for criticism of results. Seemingly, therapist bias would have manifested itself in the direction of the hypotheses. Since the results are contrary to the hypotheses, a reverse halo effect must be considered. The fluctuation of the various dependent variables is contrary to this criticism. The groups did not differ universally on all measures.



There was no pattern of responding on the various self-report measures that would be consistent with differential quality of treatment or differential impression made by the therapist.

### Implications for the Community Mental Health Model

In an era when the pathological population is growing, when the ability to pay for services is declining and when the correlation between pathology and ability to pay is negative and increasing in magnitude, research into areas that offer hope of relatively quick, effective treatment is warranted. The growing body of literature on self-control therapies continues to be a ray of hope.

The self-control treatment of depression is establishing itself empirically as an effective way to alleviate suffering in a relatively short period of time. The group application further adds to its economic attractiveness.

Beyond existing pathology, self-control training could serve as a format for programs stressing "human growth", thereby providing a verifiable mechanism for primary and secondary prevention. Prevention seems to be an apparition that has long been prophesied but seems to have largely eluded those who seek to fulfill the promises of the community mental health model.



APPENDIX A

Subject Recruitment



Notice in Daily Newspaper

Osceola Little Sentinel, January 20, 1980, p.4.

## ***Program planned to help women fight the 'blues'***

By BETH KUONI  
Osceola Little Sentinel

KISSIMMEE — Dan Tressler is looking for ways to combat what he called the "common cold of mental health" — depression.

Tressler, a psychologist at the Osceola Mental Health Center, is starting a six-week program especially for women in the county who feel depressed.

A depressed person has a generally pessimistic view toward life and himself or herself, the psychologist said.

"Through the group therapy approach we will try to give people tools they can use to improve their lives," Tressler added.

Why is the group designed especially for women?

Tressler said a woman's depression is essentially not very different from a man's. But psychologists and psychiatrists see many more women clients than men clients.

"Men are trained not to admit they have problems. Women traditionally have been told that someone else will take care of their problems, so they do not learn the social skills as well as men do," he said.

A woman's hormonal cycles also affect mood, Tressler said, which may lead to depression.

Tressler is hesitant to give the "symptoms" of depression because they are different in everyone and certain ups and downs of life are normal. But a broad definition of a depressed person, he said, would be someone who has trouble initiating behavior, being with people and dealing with social institutions.

The program is aimed at women who are chronically down, the psychologist said, not people who experience the normal range of emotions. Each woman will keep records of her moods and activities.

"We will stress a here-and-now approach. We won't dwell on people's past or childhood," Tressler said, criticizing the more traditional methods of psychological treatment.

Tressler said "cures" are hard to talk about when treating depressed people. The program, he said, is aimed more at helping people control their emotions and getting out and enjoying life.

Tressler said chemical imbalances in a person's system may make him or her more prone to depression. This program will only deal with mild to moderate depressives. If a woman's condition is more serious, she will be referred to other treatment.

Prospective members of this new group will be screened by Tressler, he said. "I will seek people who could benefit now."

The program will be free. Participants will be asked to give a \$10 "deposit" at the beginning of the program. Tressler said that in these types of programs people may attend a few sessions, decide they are better and then drop out.

The ideal number of people in a group is from six to 10, Tressler said, and he plans to have three groups.

Tressler hopes to start the program the first week of February and interested women should contact him as soon as possible.

Tressler said this program is part of what he views as an important trend toward preventive mental health care. "Many people will tolerate minor depressions and then it becomes severe and it's much more difficult to help then," he said.

"After all, we are a mental health center and we want to help the community."



Notice in Weekly Newspaper

Kissimmee This Week, January 20, 1980, p. 3.



Counselor Dan Tressler screens applicants for a project which is designed to help Osceola County women who feel pessimistic about the direction their lives are taking.

# Sad?

*Sessions to offer  
relief for women*

**Maria Cone**

Not everyone is perfectly happy with his or her role in life. But then again, not everyone is willing to do something about it.

For those who want to take control of what depresses them, Osceola County will offer an experiment in therapy. Instead of sitting on a psychiatrist's couch talking about their problems, volunteers can think positively with the help of Mental Health Services of Osceola County.

Beginning in the first week of February, volunteers will meet with counselor Dan Tressler in a classroom-like setting.



**THE VOLUNTEERS TRESSLER** is looking for are women, between the ages of 18 and 60, who are "sad, discouraged or pessimistic," he said.

For a period of six weeks, Tressler will help teach the women how to reverse their negative attitude about life.

"It will hopefully be enjoyable for everyone," Tressler said. "We won't go into anything embarrassing. It's not group therapy like the Bob Newhart Show."

Tressler said he will take a positive approach in the sessions, discussing "what makes them happy rather than what makes them unhappy."

**THE COUNSELOR** is not looking for seriously depressed people for his project.

"Society has assumed that you really need to be in bad shape to go for help," he said. "This program is ideal for people who don't want or need long term psychological therapy."

In other words, women with "chronic blues" would learn to observe their own lives and begin to meet more people, find new hobbies and even appreciate a good meal.

The volunteers will first be screened to indicate their mood, then, if accepted, they will be asked to put down a \$10 deposit refundable at the end of the six-week program.

**SIMILAR PROGRAMS HAVE** worked in other parts of the country, according to Tressler. He feels that the small-town atmosphere of Osceola County should not hinder his attempt to find volunteers. All names and information will remain strictly confidential.

Only women will be accepted for the program for practical reasons, Tressler said. "Depressed men tend less to come forward and admit it. This says something about society. But for the purposes of this project, women make up the greatest bulk of people that fit into this category of depression," he said.

Even though Tressler is male, he said he anticipates no problems identifying with the troubles of women.

"I don't subscribe to the school of thought that women have to be treated by women. I think I can relate on a human standpoint. I don't profess to know everything there is to know about women, but I can see no problems," he said.

**PREVENTION IS THE** key to this project. Instead of waiting for a person to get to the point where she needs extensive counseling from Mental Health Services, this program is designed to prevent serious problems.

"We're not doing our job if we're not trying to put ourselves out of business," Tressler said with a smile.

Bouts of depression are normal, but "if a person feels they are losing control of their lives, it does need to be treated," the counselor said. A reasonable set of goals is often enough to set a person on the right track.

"I hate to use the word therapy," Tressler said. No psychological analysis of childhood experiences, or ink blots will enter the picture in the sessions.

Tressler is searching for 18 to 30 women to be divided into three groups. The sessions will be scheduled during the day or at night, according to demand.

**VOLUNTEERS CAN CONTACT** Mental Health Services of Osceola County at 846-0023.

The program, Tressler said, will offer women a listening ear which friends and family often fail to offer.

"If I had just a few words of advice for people, I'd bottle them and sell them. There's no quick, easy answer. But this program will try to offer the briefest, most pleasant solution," Tressler said.



## INFORMATION

Recent research has shown a program of behavioral self-control to be a highly effective method of treating depression. Should you choose to participate, you will be taking part in a project designed to help identify the best form of treatment for each person depending upon individual differences.

You will be assigned to one of two treatment groups. According to available knowledge, each group will receive a form of treatment believed to be effective in reducing depression.

The data from this project will be analyzed to determine the factors contributing most to improvement. This data will be used in the publication of a Masters thesis at the University of Central Florida. This will be accomplished without the disclosure of any information of a personal nature which might be disclosed in the course of therapy.

You will be accorded the full assurances of confidentiality as guaranteed by Mental Health Services of Osceola County, Inc. and recognized by the Department of Psychology at the University of Central Florida.

If at the conclusion of the six-week program, you feel additional treatment is needed, continuing individual or group therapy will be provided.

There will be no charge for the treatment, however you will be required to post a \$10 deposit which will be refunded following completion of the program. If you fail to complete the program, the money will revert to Mental Health Services of Osceola County Inc., a non-profit corporation.

## Consent:

I \_\_\_\_\_ have read the above information and understand my treatment is part of a research project designed to contribute toward more effective means of treating depression. I understand that every reasonable effort will be made to afford me quality professional treatment, and that information divulged by me will be treated with strict confidentiality in accordance with



the ethical standards of the American Psychological Association. Further, I understand that continued treatment will be available at the conclusion of the program, should I request it. Finally, I understand that a \$10 deposit is required and is refundable upon completion of post-treatment testing.

Date \_\_\_\_\_ Participant \_\_\_\_\_

Date \_\_\_\_\_ Witness \_\_\_\_\_



APPENDIX B

Selection and Measurement Instruments



Structured Interview Format

1. Reason for volunteering (Presenting Complaint.)
2. Previous attempts at obtaining help:
  - a. Counseling or therapy?
  - b. Chemotherapy?
  - c. Hospitalization?
  - d. Suicide attempts?
3. Current attempts at obtaining help:
  - a. Counseling or therapy?
  - b. Chemotherapy?
  - c. Self-help?
4. Explanation of current program.
5. Requirements:
  - a. Willing to attend weekly sessions?
  - b. Willingness to comply with homework.
  - c. Willingness to attend either Monday or Wednesday sessions?
  - d. Willingness to post refundable \$10 deposit.
6. Presentation of Information and Consent Form



## PLEASANT EVENTS SCHEDULE

Name \_\_\_\_\_

This schedule is designed to find out about the things you have found pleasant in the past month. The schedule contains a list of events or activities which people sometimes find pleasant or interesting. You will go over the list twice, the first time rating each event on how many times it has happened in the past month and the second time rating each event on how pleasant it has been for you. There are no right or wrong answers. Please rate every event. Work Quickly. You will not be asked to make fine distinctions on your ratings. Please make your ratings in the column labeled "A" to answer question A; use the column labeled "B" to answer question B.

Directions-Question A

On the following pages, you will find a list of activities, events and experiences. How often have these events happened in your life in the past month? Please answer this question by rating each item on the following scale:

- 0 - This has not happened in the past 30 days.
- 1 - This has happened a few times (1-6) in the past 30 days
- 2 - This has happened often (7 or more) in the past 30 days.

Place your rating for each item in the column labeled "A". Since the list contains events that might happen to a wide variety of people, you may find that many of the events have not happened to you in the past thirty days. It is not expected that anyone will have done all of these things

Now turn the page and begin.



A	B
	1. Laughing.
	2. Being relaxed.
	3. Being with happy people.
	4. Eating good meals.
	5. Thinking about something good in the future.
	6. Having people show interest in what you have said.
	7. Thinking about people I like.
	8. Seeing beautiful scenery.
	9. Breathing clean air.
	10. Being with friends.
	11. Having peace and quiet.
	12. Being noticed as sexually attractive.
	13. Kissing.
	14. Watching people.
	15. Having a frank and open conversation.
	16. Sitting in the sun.
	17. Wearing clean clothes.
	18. Having spare time.
	19. Doing a project in my own way.
	20. Sleeping soundly at night.
	21. Listening to music.
	22. Having sexual relations with a member of the opposite sex.
	23. Smiling at people.
	24. Being told I am loved.
	25. Reading stories, novels, poems or plays.
	26. Planning or organizing something.



A	B
	27. Going to a restaurant.
	28. Expressing my love to someone.
	29. Petting, necking.
	30. Being with someone I love.
	31. Seeing good things happen to family or friends.
	32. Complimenting or praising someone.
	33. Having coffee, tea, a coke etc. with friends.
	34. Meeting someone new of the same sex.
	35. Driving skillfully.
	36. Saying something clearly.
	37. Being with animals.
	38. Being popular at a gathering.
	39. Having a lively talk.
	40. Feeling the presence of the Lord in my life.
	41. Planning trips or vacations.
	42. Listening to the radio.
	43. Learning to do something new.
	44. Seeing old friends.
	45. Watching wild animals.
	46. Doing a job well.
	47. Being asked for my help or advice.
	48. Amusing people.
	49. Being complimented or told I have done well.

STOP

If you have just gone through the list for the first time, turn the page and proceed with question B.

If you have just finished answering question B, you have finished this test.



Directions - Question B

Now please go over the list once again. This time the question is HOW PLEASANT OR INTERESTING WAS EACH EVENT DURING THE PAST MONTH? Please answer this question by rating each event on the following scale:

- 0 - This was not pleasant (use this rating for events which were neutral or unpleasant).
- 1 - This event was somewhat pleasant (use this rating for events which were mildly or moderately pleasant).
- 2 - This event was very pleasant (use this rating for events which were strongly or extremely pleasant).

IMPORTANT: If an event has happened to you more than once in the past month, try to rate roughly how pleasant it was on the average.

IF AN EVENT HAS NOT HAPPENED TO YOU DURING THE PAST MONTH, THEN TRY TO RATE IT ACCORDING TO HOW PLEASANT YOU THINK IT WOULD HAVE BEEN.

Place your rating for each event in the column labeled "B".



## SELF-EVALUATION QUESTIONNAIRE

Name \_\_\_\_\_

Below you will find a list of broad classes of behavior (activities) or characteristics. Please place a rating next to each item to indicate how well you think you are doing in that area now as compared to others. Choose your rating from: 1 - amongst the least involved or having the least ability; to 9 - amongst the most involved, able or successful. A rating of 5 would indicate average involvement or ability.

Academic	_____	Intellectual	_____
Occupational	_____	Social	_____
Interpersonal	_____	Heterosexual	_____
Physical	_____	Athletic	_____
Recreational	_____	Emotional	_____
Political	_____	Scientific	_____
Artistic	_____	Ethical	_____
Avocational	_____	Familial	_____
Technical	_____	Rational	_____

The same list appears again below. This time rate each item according to how well you feel you should do or would like to do, as compared to others. Choose your rating from: 1 - uninterested in being involved or successful to 9 - strongest desire to be highly involved or successful.

Academic	_____	Intellectual	_____
Occupational	_____	Social	_____
Interpersonal	_____	Heterosexual	_____
Physical	_____	Athletic	_____
Recreational	_____	Emotional	_____
Political	_____	Scientific	_____
Artistic	_____	Ethical	_____
Avocational	_____	Familial	_____
Technical	_____	Rational	_____



## COMMON ASSOCIATES TEST

Name \_\_\_\_\_

This is a test of your ability to predict how other people typically respond to word associations. A word association is the first word that comes to your mind in response to a stimulus word. For example, to the stimulus word, "table" most people respond, "chair".

Next to each of the following words, indicate what you think would be the most common word association among college students. After you have written your response, indicate how confident you are in your response by placing a check mark under one of the three columns marked "Sure I'm right", "Sure I'm wrong" or "Don't know".

	Most common Word Association	Sure I'm right	Sure I'm Wrong	Don't Know
1. Dumb	_____			
2. Wish	_____			
3. Priest	_____			
4. Fear	_____			
5. Religion	_____			
6. Bite	_____			
7. Meat	_____			
8. Hope	_____			
9. Sit	_____			
10. Silk	_____			
11. Why	_____			
12. Lettuce	_____			
13. Running	_____			
14. Scared	_____			
15. Ground	_____			
16. Dark	_____			
17. Hand	_____			
18. Carry	_____			



	Most common Association	Sure I'm right	Sure I'm wrong	Don't Know
19. Deep				
20. Because				
21. Music				
22. Mutton				
23. Hair				
24. Beautiful				
25. Dirt				
26. Closer				
27. Head				
28. Ocean				
29. Quietly				
30. Smooth				
31. Cabbage				
32. Moth				
33. Soap				
34. Beef				
35. Vegetable				
36. Find				
37. Cracker				
38. Soldier				
39. Cake				
40. Red				



Name \_\_\_\_\_

Age \_\_\_\_\_

Address

Phone \_\_\_\_\_

Occupation \_\_\_\_\_

The following questions will help provide information which will be useful in evaluating the treatment program and in planning future such programs.

- [illegible]



7. I feel I need:
- A. No additional treatment at present.
  - B. Information on self-improvement.
  - C. More training in the area of self-control.
  - D. Intensive therapy.
8. If i sought additional therapy, it would be:
- A. Individual.
  - B. Group
9. Regarding this type of program:
- A. I would recommend it to others.
  - B. I would not recommend it to others.
  - C. I would recommedn it to others and tell them about my experience.
10. I would describe my overall level of satisfaction with this program as:
- |              |   |   |   |                 |
|--------------|---|---|---|-----------------|
| 1            | 2 | 3 | 4 | 5               |
| Dissatisfied |   |   |   | Quite Satisfied |



APPENDIX C

Self-control Assignments



## Positive Activities

1. Trying to make new friends.
2. Arranging to be with happy and/or interesting people.
3. Expressing yourself to another person in an open way.
4. Getting another person interested in you.
5. Cooperating with other people.
6. Getting involved in new circles of people (e.g. special interest group, social organization, community service, or political movement, academic or professional group).
7. Initiating social interactions.
8. Arranging to go out (e.g. to a concert or show, exhibit, restaurant or bar, dance, party or other social affair).
9. Doing a favorite or new hobby, project, or physical activity of your own (e.g. art or crafts, composing or performing music or dance, sports, boating, gardening, writing, nature study, scientific or technical work).
10. Learning something new or figuring something out (e.g. puzzle, new skill, intellectual or personal problem).
11. Going on a trip (e.g. to the park, beach, or country, zoo or fair, downtown for shopping, sightseeing or exploring an area, etc.).
12. Caring for your self.
13. Making yourself attractive.
14. Actively enjoying beautiful weather.
15. Getting a good meal.
16. Physically contacting another person.
17. Looking at attractive scenery (urban or rural).
18. Deliberately thinking about something good (e.g. physical pleasures, social event, personal achievement).
19. Making time for yourself.
20. Other pleasurable activity (please describe).



## Positive Activities Survey

Directions

Attached is a list of suggested Positive Activities, to help you in getting started. Positive activities are those that you can expect will usually result in pleasant, satisfying, or rewarding outcomes in time. They are direct actions on your surroundings (people and objects) to achieve what you desire, or what would give you pleasure.

There are individual differences in what is desired, considered pleasant, or valued as an outcome. No one is expected to find all of the suggested activities worthwhile. Neither is this list of suggestions comprehensive. You are encouraged to add your own items as you discover them and to select your own goals and priorities. For the present, try not to focus on activities that result in unwanted or unpleasant consequences for you. Concentrate on those activities that would lead to results you personally value or that you have previously enjoyed.

Objective self-observation is critically essential in changing your behavior pattern and resultant moods. You should monitor every positive activity you engage in, no matter how small. As immediately after your positive action as possible, record what you did (briefly describe the class of positive activities it comes under) and then rate your subsequent mood. Rate your mood on a scale from: 0- worst or most miserable feelings you have ever experienced, to 10- best or most elated feelings you have ever experienced. A rating of 5 would indicate a neutral feeling experience-neither particularly joyous or particularly unpleasant for you.



## SELF-MONITORING LOG

Activity	Mood Rating
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____
16. _____	_____
17. _____	_____
18. _____	_____
19. _____	_____
20. _____	_____

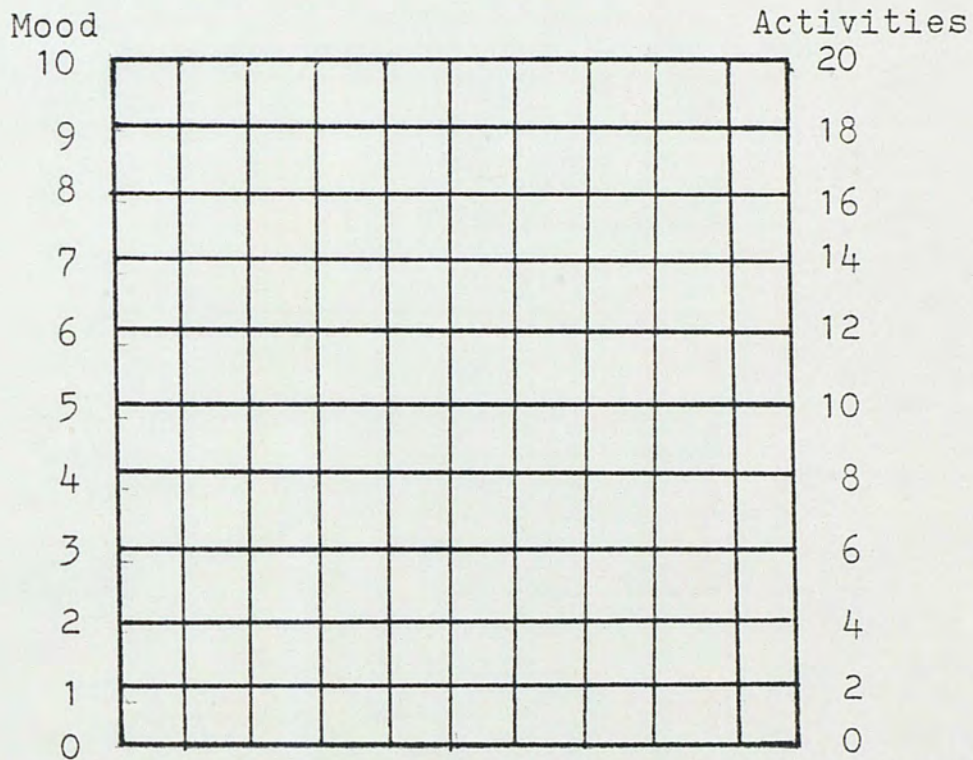
- A. List only positive activities.  
 B. Rate your mood during the activity on the right.  
 C. Rate your overall mood for the day below:

1	2	3	4	5	6	7	8	9	10
Unpleasant							Quite Pleasant		



Mood and Activity Graph

1. From your logs, determine the average mood for each day of the last week and mark it according to the scale at the left of the graph. Next, graph the number of positive activities for that same day according to the scale on the right. Repeat for each day of the past week.



2. Look for the relationship between mood level and activity level. Over time, the lines should become roughly parallel. Mood and pleasant activities are generally related.
3. Now pick out the days where your average mood were highest. What special or peak activities occurred on those days? This can serve as a clue to the special relationship between certain activities and positive mood.
4. LOOK FOR TRENDS to help you form conclusions about what activities positively affect the way you feel.



Self-evaluation Worksheet

## Assignment:

1. Establish a broad goal (see examples). Make sure it meets the following criteria:
  - A. Positive in nature.
  - B. Attainable.
  - C. Under your control and a function of your behavior.
2. Establish a list of subgoals. The idea is to break your broad goal down into a series of small, easily attainable steps. Make sure that each subgoal meets the same criteria:
  - A. Positive in nature.
  - B. Attainable.
  - C. Under your control and a function of your behavior.

## Goal:

"I want to increase (or achieve) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_.

## Subgoals:

1. \_\_\_\_\_.

2. \_\_\_\_\_.

3. \_\_\_\_\_.

4. \_\_\_\_\_.

5. \_\_\_\_\_.

Add additional subgoals if necessary. Pay close attention to successes on each of the subgoals.



Examples of effective goal-setting -

Goal: "I want to increase how attractive I look."

Subgoals:

1. Shop for new cosmetics.
2. Buy some beauty magazines.
3. Have my hair styled.
4. Give myself a manicure once per week.
5. Shop for new clothes.
6. Wear makeup daily.
7. Dress up in attractive clothes at least once per week.

Goal: "I want to increase my social contacts with friends."

Subgoals:

1. Phone a friend to chat and ask how they are this weekend.
2. Invite a friend to join me for a walk or for lunch or a cup of coffee this week.
3. Call and invite a friend to my house for an informal visit.
4. Plan a party or get-together and invite people for a specific date.
5. Make party plans and purchase supplies by the day of the party.
6. Host the party; introducing guests, serving refreshments, and initiating activities (cards, discussions, dancing, etc...).

Note that each of these goals and subgoals is positive, attainable, and within the control of the person setting the goals. Each one is function of the person's own behavior and not dependent upon what others think.



## Self-reward Menu

Self-rewards	Value
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____
16. _____	_____
17. _____	_____
18. _____	_____
19. _____	_____
20. _____	_____

- A. Make sure the rewards are pleasurable and under your control.
- B. Assign values according to how pleasurable each item is to you. Use your self-monitoring logs as a guide and rate each item from 1-10.
- C. List items of various values so you can tailor your rewards to the nature of the target activity.



## Assets List

- A. Each time you perform a target activity, in addition to giving yourself an item from the reward menu, enter a statement below giving yourself credit for the accomplishment.
- B. Whenever you can't immediately give yourself something from the reward menu, think of a "take credit" statement and write it below.
- C. Each time you make an entry, read the list to yourself.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_
18. \_\_\_\_\_
19. \_\_\_\_\_
20. \_\_\_\_\_



APPENDIX D

Therapy Manuals



SM+SE Therapy Manual

## Session I

- A. Explain Consent Form and collect deposits with forms. Give receipts.
- B. Introduce self and observers.
- C. Explain parameters of confidentiality.
- D. Prompt introductions of group members and statements of presenting problems (60 sec. min.)
- E. Behavioral assessment.
  - 1. Encourage members to continue discussion while therapist leaves room for 10 minute period.
- F. Rationale behind project and therapy program: six-week therapy program focusing on self-control skills believed to be related to depression.
  - 1. Self-monitoring- the ability to attend to one's own behavior and it's consequences. Depressed individuals tend to attend to the negative aspects of their own behavior and on external influences...especially negative ones. The goal is to increase self-monitoring skills which enable the person to recognize rewarding experiences which can result from her own behavior.
  - 2. Self-evaluation- the objective evaluation of one's own behavior. While effective SE is based on realistic, controllable goals and criteria, depressed individuals tend to have unrealistic goals and criteria which are not realistic and controllable. The goal is to attain more realistic criteria and to focus on one's own ability to achieve goals based on those criteria.
- G. Group discussion of problems relating to SM and SE skills. Begin shaping toward behavior descriptions, discouraging focus on the behavior of external persons.
- H. SM homework assignment.
  - 1. Distribute Positive Activities survey and SM logs.
  - 2. Give guidelines for effective SM:
    - a. Attend to your own behavior.
    - b. Focus only on positive activities, looking for trivial sources of enjoyment. Be specific as to nature of the activity and the mood associated with it.



- c. Focus on activities rewarding to you rather than what others say you should enjoy.
  - d. At the end of each day, rate your average mood for the day on the SM log.
- 3. Discuss examples what to log and what not to log. Log "chance" pleasant occurrences in terms of your behavior associated with the occurrence (e.g. getting a tax refund).
- 4. Close session warmly, giving encouragement about the assignment.

## Session II

- A. Review assignment
  - 1. SM Rationalw
  - 2. Specific procedures:
    - a. Record only positive activities.
    - b. Look for trivial sources of enjoyment.
    - c. Focus on the role of your behavior.
- B. Review individual schedules:
  - 1. Look for technical problems.
  - 2. Be sure both mood encountered during the activity and overall mood for the day are recorded. Point out relationship between mood and activity on "good" and "bad" days.
  - 3. In reviewing logs, reinforce effort, focusing on successes primarily.
- C. Mood-Activity graphs- distribute.
  - 1. Explain mechanics of graph.
    - a. Log activity level and mood level separately for each day.
    - b. Look for general parallel relationship.
    - c. On days of peak mood, ask for identification of a particularly enjoyable activity or activities.
- D. Homework Assignment.
  - 1. Continue SM logs for next week.
  - 2. Graph mood and activity each day.
  - 3. Encourage observation of trends.  
(Note: Focus on monitoring of events and their influence on mood. Do not encourage increase in activity level so as to confound treatment effects.)

## Session III

- A. Review and disucssion.
  - 1. Seek trends and general findings about how member's ability to perceive enjoyable activities affected mood.
- B. Self-evaluation Introduction.



1. The goal is to encourage adoption of realistic, controllable goals and criteria.
2. Depressed persons tend to set extremely high, all-or-none standards of success; unattainable goals; distant goals with no intermediate steps and/or goals dependent upon others' behavior.
3. Ask for examples from group members based on previous discussions. Evaluate in terms of the following criteria:
  - a. Positive nature
  - b. Attainability
  - c. Control (self as opposed to others)
- C. Distribute SE worksheets and examples.
- D. Instruct as to use of SE worksheet using examples.
  1. Choose target activities. Should meet above criteria and not be too broad or long-range.
  2. Subgoals- break the goal down into manageable, easily attainable subunits, specifying the behavior required to meet each subgoal.
  3. Compare present criteria for success with those used to formulate the goals. Look for contrasts.
- E. Homework assignment.
  1. Formulate one short-term goal using above criteria (e.g. improving appearance).
  2. Specify subgoals (e.g. getting hair done).
  3. Focus on behavior necessary to meet each subgoal.
- F. Close session warmly, giving encouragement.

#### Session IV

- A. Review SE principles.
  1. Nature of SE to depression.
  2. Need to self-evaluate in terms of realistic criteria.
- B. Review assignment.
  1. Target, short-term goal. Was it positive, attainable, in subject's control?
  2. Subgoals. Were they defined in terms of behavior?
- C. Review Individual goals.
  1. Reinforce effort.
  2. Point out importance of success at achieving even minute subgoals.
  3. Encourage group feedback about individual assignments.
  4. Reinforce helpful, positive feedback by other group members.



- D. Homework for coming week:
  1. Continue work toward short-term goal if not completed.
  2. Formulate one long-range goal and subgoals.
  3. Make sure goals are positive, attainable, and in subject's control.
  4. Make sure subgoals include steps attainable immediately.
- E. Close session warmly, giving encouragement.

## Session V

- A. Review assignment.
  1. Discuss successes and problems (focus on successes, shaping problem presentation toward a strategy for problem solution).
  2. Assess individual assignments.
    - a. Are the goals positive, attainable and in subject's control?
    - b. Are there sufficient and manageable subgoals?
- B. Goal revision.
  1. Those goals which are too broad or not otherwise meeting criteria should be revised.
  2. Additional subgoals may be needed to give individual a greater chance for success.
- C. Disputing previous criteris and beliefs.
  1. Use individual successes at achieving goals and subgoals to compare with prior statements about inadequacy or ineffectiveness.
  2. Call on group members to give one another feedback, reinforcing appropriate feedback (e.g. "that's a good example of how to express an opinion openly").
- D. Homework for coming week.
  1. Continue working on goals and subgoals, making changes where appropriate.
  2. Compare successes to prior beliefs about ineffectiveness or inadequacy.

## Session VI

- A. Review SE rationale, note observers.
  1. Specify how realistic goal setting is related to appropriate SE skills.
  2. Review how to dispute negative self-evaluations with the data produced by successful achievement of subgoals.
- B. Group discussion-encourage each subject to state feelings about progress and successes (min. 60 sec. each).
- C. Behavioral assessment. Following group discussion therapist excuses himself for the 10-minute assessment period.



- D. Review of Self-control (SM & SE) skills and how they relate to depression.
- E. Open discussion-encourage subjects to seek clarification of principles, help in further modifying goals and feelings about progress made in the program.
- F. Maintenance-subjects are given general advice for maintenance and further improvement.
  - 1. SM- keep individual logs, focusing on the mood-activity relationship.
  - 2. SE- expand goal setting principles to additional areas of life (generalization).
- G. Close session warmly, reminding subjects that deposits will be refunded following posttesting.



## SM+SR Therapy Manual

## Session I

- A. Explain Consent form and collect deposits with forms. Give receipts.
- B. Introduce self and observers.
- C. Explain parameters of confidentiality.
- D. Prompt introductions of group members and statements of presenting problems (60 sec. min.)
- E. Behavioral assessment.
  - 1. Encourage members to continue discussion while therapist leaves room for 10 minute period.
- F. Rationale behind project and therapy program: six-week therapy program focusing on self-control skills believed to be related to depression.
  - 1. Self-monitoring- the ability to attend to one's own behavior and it's consequences. Depressed individuals tend to attend to the negative aspects of their own behavior and on external influences...especially negative ones. The goal is to increase self-monitoring skills which enable the person to recognize rewarding experiences which can result from her own behavior.
  - 2. Self-reinforcement- the ability to provide one's own rewards when rewards are not immediately available from external sources. Depressed persons tend to give themselves few rewards for their own behavior and often punish themselves at higher rates than non-depressed persons. The goal is to enhance the person's ability to bridge the gap between external rewards by self-administering rewards and to reduce levels of self-punishment.
- G. Group discussion of problems relating to SM and SR skills. Begin shaping toward behavior descriptions, discouraging focus on the behavior of external persons.
- H. SM homework assignment.
  - 1. Distribute Positive Activities survey and SM logs.
  - 2. Give guidelines for effective SM:
    - a. Attend to your own behavior.
    - b. Focus only on positive activities. looking for trivial sources of enjoyment.



- Be specific as to nature of the activity and the mood associated with it.
- c. Focus on activities rewarding to you rather than what others say you should enjoy.
- d. At the end of each day, rate your average mood for the day on the SM log.
- 3. Discuss examples what to log and what not to log. Log "chance" pleasant occurrences in terms of your behavior associated with the occurrence (e.g. getting a tax refund).
- 4. Close session warmly, giving encouragement about the assignment.

## Session II

- A. Review assignment.
  - 1. SM rationale
  - 2. Specific procedures:
    - a. Record only positive activities.
    - b. Look for trivial sources of enjoyment.
    - c. Focus on the role of your behavior.
- B. Review individual schedules:
  - 1. Look for technical problems.
  - 2. Be sure both mood encountered during the activity and overall mood for the day are recorded. Point out relationship between mood and activity on "good" and "bad" days.
  - 3. In reviewing logs, reinforce effort, focusing on successes primarily.
- C. Mood-Activity graphs-distribute.
  - 1. Explain mechanics of graph.
    - a. Log activity level and mood level separately for each day.
    - b. Look for general parallel relationship.
    - c. On days of peak mood, ask for identification of a particularly enjoyable activity or activities.
- D. Homework Assignment.
  - 1. Continue SM logs for next week.
  - 2. Graph mood and activity each day.
  - 3. Encourage observation of trends.
    - (Note: Focus on monitoring of events and their influence on mood. Do not encourage increase in activity level so as to confound treatment effects.)

## Session III

- A. Review and discussion. Seek trends and general findings about how members abilities to perceive enjoyable activities affected mood.



- D. Covert reinforcement.
  - 1. Distribute Assets List
  - 2. Ask subjects to write down five good things about themselves (personality traits, physical features, possessions, etc....)
  - 3. Have them read the items back to themselves, pointing out how difficult it might be for them to say good things about themselves.
  - 4. Explain that positive self-statements can be administered when other reinforcers aren't immediately available.
- E. Group discussion.
  - 1. Encourage focus on the present difficulty in saying good things about oneself. Reinforce efforts toward mutual help.
- F. Homework for the coming week.
  - 1. Continue to add both to Reward Menu and Assets list.

#### Session V

- A. Review of role of rewards and punishments in shaping behavior.
- B. Review individual Menus and Assets lists, to ensure appropriateness of rewards.
- C. Group discussion.
  - 1. Encourage members to help one another refine lists.
  - 2. Reinforce appropriate member-to-member feedback.
- D. The adverse effects of punishment.
  - 1. Punishment can suppress behavior. Self-punishment can block self-directed behavior.
  - 2. Self-punishment is often covert. Negative self-references are examples of self-punishment, which can, if used frequently, suppress adaptive behavior.
  - 3. To achieve self-control over mood it is necessary to decrease self-punishment.
  - 4. Punishing oneself is similar to being punished by others: it is unpleasant and has an adverse effect on mood.
- E. Homework for the coming week.
  - 1. Expand target activities to two per day.
  - 2. Continue to add to the Reward Menu and Assets List.

#### Session VI

- A. Review SR principles, note observers.
  - 1. Specify how contingent SR can serve to increase and maintain behavior in the absence of external rewards.



- B. Self-Reinforcement introduction.
  - 1. The goal is to improve members' ability to maintain behavior in the absence of external rewards by administering their own rewards.
  - 2. Depressed persons tend to administer too few self-rewards and too many self-punishments.
  - 3. Ask individual group members to discuss their problems in terms of self-rewards and self-punishments.
- C. Introduce reward menus.
  - 1. Though they will be ceasing their daily SM exercise, subjects are called on to review their SM logs to pick out items which can be self-administered as rewards.
  - 2. List five items of various magnitudes and assign prices to those items according to magnitude.
- D. SR instructions.
  - 1. Behaviors can be effectively increased by administering contingent rewards.
  - 2. Pleasurable-but difficult behaviors can be rewarded by access to other pleasurable but non-difficult behaviors.
  - 3. Low magnitude pleasurable behaviors can be rewarded by high-magnitude pleasurable behaviors (Premack reinforcers).
  - 4. Select target behaviors and reward them with appropriate reinforcers (give examples).
- E. SR assignment.
  - 1. Target one behavior per day in the coming week. Administer an appropriate reward.
  - 2. Add one new reward to the menu per day.
- F. Close session warmly, giving encouragement.

#### Session IV

- A. Review SR principles.
- B. Review individual reward menus, checking for items of sufficient variability to reinforce a variety of activities.
  - 1. Encourage revisions where needed.
  - 2. Stress contingent reinforcement.
- C. Use of the Premack Principle.
  - 1. Review use of high-level activities to reward low-level activities (e.g. going to a movie after completing the laundry).
  - 2. Enjoyable but difficult activities can be rewarded by enjoyable and easy ones.



- B. Group discussion-encourage each subject to state feelings about progress and successes (min. 60 sec. each)
- C. Behavioral assessment. Following group discussion, therapist excuses himself for the 10-minute assessment period.
- D. Review of self-control skills (SM & SR) and how they relate to depression.
- E. Open discussion-encourage subjects to seek clarification of principles, help in further modifying activities and feelings about progress made in the program.
- F. Maintenance-subjects are given general advice for maintenance and further improvement.
  - 1. SM- keep individual logs, focusing on the mood activity relationship.
  - 2. SR- continue response-contingent self-reinforcement in a broad range of behaviors (generalization).
- G. Close session warmly, reminding subjects that deposits will be refunded following posttesting.



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